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THE DEWBERRY.

A Much-Neglected Fruit That is Well Worth Attention.

BY L. H. BAILEY,
New York Experiment Station.

Nearly five years ago we published a bulletin (No. 34) upon the dewberry, and concluded, from the results of our experiments and inquiry, that there is a future for the berry for commercial purposes.

The dewberry is so unlike all other small fruits in its habit of growth, that growers seem to be slow to learn how to handle it; and many of them are no doubt prejudiced against it because the species is so common, and often so troublesome, in old fields and vineyards. The raspberry and blackberry have had a similar history, and the prejudices against them are only recently outgrown. Here and there, a person has studied the dewberry and has found it to be a valuable addition to the market fruits of early Summer.

Of the dozen or 20 varieties of dewberries which have been named and introduced, only two, the Lucretia and Bartel, have gained wide prominence. In fact, there may be said to be only one leading variety, and that is the Lucretia, and it is the only one which has been well tested in New York. The dewberry bears the fruit upon the canes of last year's growth, the same as raspberries and blackberries do. These canes are long and weak and naturally lie perfectly prostrate on the ground. There are several methods of training the Lucretia dewberry. It is commonly allowed to lie upon the ground. The canes are cut back to three or four feet in length in the same manner as blackberry and raspberry canes are treated, and if the best results are expected the canes should be thinned to four or five in a hill. The canes are usually allowed to branch freely, although it is evident that some checking of the growth may often be essential to good results. A mulch is often placed under them to keep the berries clean and to retard the weeds. When this is applied, the vines are raised with a fork. A. M. Purdy recommends two stakes, one to hold the bearing cane and one the growing cane. This implies that only one cane is to be allowed to fruit each year. This method does not appear to be in practice, and it is doubtful if it

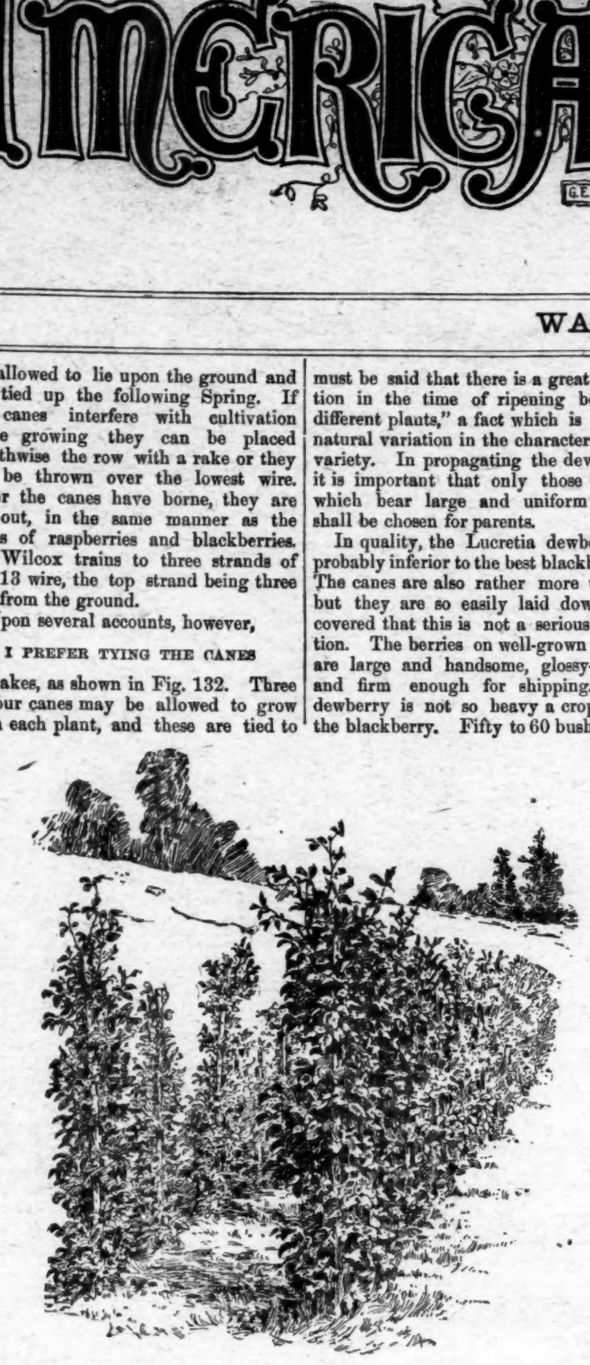
DEWBERRIES ON A WIRE SCREEN.

has anything to recommend it. Trellises and racks of various kinds have been devised. In our plantation of Lucretia we have tried three methods of training. In one portion of the plantation the plants are allowed to lie upon the ground without mulch, and the canes are cut off when three or four feet long. Another portion is trained upon a common grape trellis of three wires, the canes being tied to the wires the Spring of the bearing year by means of wool twine. In the third portion the vines lie upon a flat rack standing 18 inches above the ground and made of light slats laid crosswise the row and resting upon bents at the sides. There has been no gain in productiveness or earliness upon the trellised or racked plants; the only advantages have came from the greater ease of picking and cultivating and the less amount of room occupied. And these advantages are considerable, and seem to me to warrant the adoption of some simple trellis, preferably a wire trellis, in garden culture. Whether it would pay in field or market culture is a question which must be determined by the grower himself. The labor of tying the canes to the wires is somewhat onerous, but it is needed only once in the season. This training does not interfere with covering for Winter protection, for the young or growing canes are allowed to lie upon the ground and are tied up the following Spring. If the canes interfere with cultivation while growing they can be placed lengthwise the row with a rake or they can be thrown over the lowest wire. After the canes have borne, they are cut out, in the same manner as the canes of raspberries and blackberries. Mr. Wilcox trains to three strands of No. 13 wire, the top strand being three feet from the ground.

Upon several accounts, however,

I PREFER TYING THE CANES

to stakes, as shown in Fig. 132. Three or four canes may be allowed to grow from each plant, and these are tied to



LUCRETIA DEWBERRIES TRAINED TO STAKES.

the stakes, with wool twine or willow thongs, two or three times during the season, as they grow. The canes may be left on the stakes all Winter, although it is better, particularly in exposed localities, to lay them down late in Fall. Whilst the year-old canes are bearing fruit, the new ones are growing on the ground. As soon as the fruit is removed, the old canes are cut out and the new ones are tied up for the remainder of the season. To prevent the breaking of these young canes by the early cultivating, it is necessary to turn them lengthwise the row with a fork. If they become very strong and if the land gets weedy, it may be advisable to tie up these young canes along with the old ones before the fruit is picked. On the other hand, if the land is clean, so that much cultivating or hoeing is unnecessary, the new canes may be allowed to lie on the ground throughout the entire season. This is scarcely advisable, however, for they are likely to make a weak and soft growth in weeds and grass and shade, and the ground cannot receive the attention which it should have. Some persons tie dewberries to a woven-wire screen, as seen in Fig. 133. This is a neat practice for a few vines in the garden, but is too expensive for the field, and the spaces in the screen are not large enough to allow of the easy movement of the hand through it when tying and picking.

THE ONE GREAT MERIT

of the dewberry is the earliness of the fruit. The fruit is indistinguishable from the blackberry by the general public, and it is 10 days and often two weeks earlier than the standard varieties of blackberries. "Dewberries, raspberries, and blackberries grow side by side in our plantations, and we have had, therefore, a good opportunity to observe the earliness of the Lucretia. This year (1891) the first ripe raspberries—Marlboro and Rancocas—were obtained July 4. At this time a few dewberries were about fully grown and had turned red. July 8 a few ripe dewberries were secured. July 11 dewberries on some of the vines were ripening rapidly, and at this time Ada raspberry was just ripening and

LUCRETIA DEWBERRY, NATURAL SIZE.

Doolittle and Souhegan were in their prime. July 16 Early Harvest blackberry, our earliest sort, gave its first ripe fruits, while the first picking of Agawam was not obtained until July 22. July 16 there were no flowers to be found upon the dewberries, but the blackberries were still blooming freely. A week later, pickings from the dewberries had practically ceased. It will be seen, therefore, that the dewberries ripen with the earliest black raspberries. But it must be said that there is a great variation in the time of ripening between different plants," a fact which is due to natural variation in the character of the variety. In propagating the dewberry, it is important that only those plants which bear large and uniform fruits shall be chosen for parents.

In quality, the Lucretia dewberry is probably inferior to the best blackberries. The canes are also rather more tender, but they are so easily laid down and covered that this is not a serious objection. The berries on well-grown plants are large and handsome, glossy-black, and firm enough for shipping. The dewberry is not so heavy a cropper as the blackberry. Fifty to 60 bushels per acre may be considered to be a fair crop. To secure this yield the rows should stand about three and a-half feet apart, and the plants from two to three feet in the row.

The Lucretia is the only variety which I can confidently recommend for this State, although I should like to see the Bartel given some attention. All the dewberries propagate by rooting at the tips and joints of the canes, and they are therefore easily increased by any grower.

Culture of Cow Peas.

The bunch varieties are the ones which are best adapted to growing for hay or ensilage, while the runners and trailers are valuable for soiling purposes or for turning under as green manure. The length of season required for maturity also varies greatly, the bunch varieties, as a rule, requiring only a very short season. The feeding value of cow peas, either green, fed as hay, or preserved as ensilage, is very high, being considerably above that of red clover. Cow-peas require a deep, rich, sandy loam, although, because of their strong root system, they are adapted to grow upon almost any soil which is not too wet. The ground should be well prepared, and the seed should not be sown until the soil is thoroughly warmed. Cow-peas, by the means of the tubercles on the roots, gather large amounts of nitrogen from the air, and also pump up large amounts of valuable mineral fertilizers from the subsoil. When the stubble is plowed under after the crop has been removed these valuable fertilizing elements—potash, nitrogen, and phosphoric acid—are left in the surface soil for the use of succeeding crops. At the Rhode Island Experiment Station the total crop of green vines per acre was 35,000 pounds, containing 157 pounds of nitrogen, 109½ pounds of potash, and 31.2 pounds of phosphoric acid, and the additional quantity estimated to be contained in the roots was 17¾ pounds of nitrogen, 10 pounds of potash, and 5.15 pounds phosphoric acid.—JARED G. SMITH, U. S. Department of Agriculture.

Losses in Liquid Manure.

An English chemist points out the fact that in every 10 gallons of urine there will be found as much nitrogen as is contained in seven pounds of nitrate of soda, 34 pounds of bonemeal, or 127 pounds of white turnips. This puts in a comprehensive way the loss that occurs when liquid manure is permitted to drain or soak away.

A farmer would certainly not throw away a bag of ground bone. Yet he may thoughtlessly lose more than enough liquid manure to pay for the bone. By the use of absorbents he may save all of the urine, including the water, or by using plaster he may let the water go and save only the nitrogen. In any case it is just as much a mistake to let the liquid manure escape as it would be to throw a ton of fertilizer into the brook.

THE GOUMI.

A Japanese Fruit Which Promises to Become of Much Value.

BY L. H. BAILEY,
New York Experiment Station.

THE GOUMI—ELÆAGNUS LONGIPES.*

Much has been said, during the past five years, about the goumi, all of which is deserved. It is a graceful and handsome bush of five or six feet high, bearing a profusion of silver-white leaves and most abundant crops of cinnibarred and gold-flecked berries. Whether considered for ornament or for fruit, it is one of the best of the many excellent shrubs which have come to us from Japan. Its silken-gray foliage is of a kind which is always desirable in shrubberies, and of which we have little in our native flora. The bush is as hardy as an apple tree. It stood the past Winter in western New York without a blemish. It is enormously productive of fruit, and the berries are a delight to look upon, even if one does not desire to eat them. At first, these berries are very astringent, but when they are fully ripe and soft, they have a juicy piquancy which I enjoy. I have not tried them for culinary purposes, but it is said that they may be used for sauces and pies, and in the many ways in which cranberries are so delicious. The fruits begin to ripen the first days of July in western New York, and they continue upon the bush for three weeks, much to the delight of birds.

I do not know when this delightful bush first came to this country. William Falconer wrote in 1893 (*Gardening*, i. 275) that "although it has long been cultivated in gardens, it is only within the last few years that its merits have been generally appreciated, and it has become in much demand." It could not have been a very old resident of American gardens. It seems to have been first brought prominently to notice in England in 1873, by an illustration and description in *Gardener's Chronicle*, by Maxwell T. Masters. The species was described by Asa Gray in 1859. Maximowicz (Bull. Acad. Imper. Sci. St. Petersburg, vii. 560, 1870) divides

THE GOUMI, NATURAL SIZE.

the species into four varieties, two of which bear edible fruit. The form which is grown in this country is the variety *hortensis*, characterized by spineless branches, elliptical leaves, very long fruit-stems, and large, edible fruit. In nurseries, the plant is sometimes called *Elæagnus edulis*.

The goumi grows readily from seeds. These should be sown or stratified in Summer, before they become dry, and allowed to freeze the following Winter. The next Spring they should germinate freely. Cuttings of the half-ripened wood strike readily in June or July, if handled in frames. As soon as attention is given to cultivation and selection, we may expect the goumi to become prized for the edible qualities of its fruit.

*Pronounced lon-gi-pes. The name means "long-footed," that is, long-stemmed, and refers to the fruit-stems.

Tie the Horse.

EDITOR AMERICAN FARMER: Every year a large number of runaway accidents occur. Some of these involve a loss of life; others prove destructive to property without bringing more serious evils. Even under the most favorable circumstances they cause trouble and alarm, and are always to be regarded with apprehension. As they are always attended with danger, all reasonable means for their prevention ought certainly to be employed.

In a large proportion of the instances in which horses that have been left standing in field or in town run away the animals were not tied. They were merely stopped, and there was nothing to detain them whenever they chose to go elsewhere. In many cases the animals were alarmed by some unusual sight or sound, and, very naturally, started for some pleasanter or quieter place. In other instances the horses started away simply because they were tired of standing where they had been left.

In the great majority of instances, including both the classes which have been mentioned, runaway accidents would be prevented if the horses were properly tied. Some horses will break an ordinary strap when they are suddenly startled, and a few will do this when from any cause they wish to go from the place at which they have been tied, but the number of such animals is comparatively small.

There are a good many owners of horses who claim that these animals should be educated to stay at any place at which they are left. Their theory seems to be very good as long as it remains a theory, but when it is put into practice it often fails. Some horses can be trained to do almost anything that is in the line of possibility, but there are others which are neither so intelligent nor so tractable. Then, too, the great majority of horses are never handled by a skillful trainer. Thousands of men can drive horses and take care of them, who are not qualified to educate them. Besides, the horses which are now in active use have already passed the time at which the most efficient training can be given. The old saying that "it is hard to teach old dogs new tricks" will apply with equal force in the case of horses. The colt can be taught many things which the mature horse will never learn. So, whatever may be said in favor of teaching colts to stand without being tied, it is hardly safe to attempt to train old horses in this direction.

It is not only important that the horse should be tied, but it is perhaps equally necessary that the work be properly done. The rope or strap should be so strong that the horse cannot break it however hard he may pull. Using a weak strap is very likely to give the horse a habit of breaking away. After he has found that he can get his liberty in this manner a horse will become an expert in parting ropes or straps. A tie that would have held him if he had never learned the trick of pulling away will offer but little resistance to a horse that has learned to break loose. But if a strong tie is used to begin with the horse will not be likely to form the habit of pulling, and if he does occasionally draw upon the rope the chances are that he will not get away. This point should be observed in the stable as well as when the horse is tied in town. Many horses get their first lessons in breaking away by being tied in the stable with a worn-out rope or a defective strap.

For tying in the stable a halter or "head stall" is preferred. In the street a wide strap is made for the purpose, and is stronger and better. This should be fastened around the neck with a snap and ring, and the other end be passed through the bridle-ring (a point which should never be overlooked), and firmly tied to a post, or to some other object which the horse cannot move. When the horse must be left for a long time in the field he should be tied to a strong fence, or to something else which he cannot take away. He may stay where he should if he is not tied, but it is a safeguard to have him securely fastened.

Many farmers object to tying their horses, because it is some trouble to attend to it, but it is better to tie a horse a hundred times than it is to have him run away once. Even if no one is seriously hurt, and no great amount of property is destroyed, there is a great deal of mischief done, and someone will be to considerable trouble before the horse is brought back to the place from which he started. After he has had one running-away experience a horse is never safe. He is liable to run again, and when he starts no one can tell where he will stop or what he will do while on the way. This is one of the matters concerning which preventive measures are a great deal more useful than are efforts to remedy an evil which has already been done. It is also a matter in which a little care may save a great deal of regret and loss. If anyone thinks it is too small a thing to worry over let him consider whether, in the course of his earthly career, he is not likely to meet risks and dangers enough without courting any to which he does not need to be exposed.—ELLIOT, Buffalo, N. Y.

Sam Small, the evangelist, sizes up the situation thus: "I believe the crowd running with McKinley have the money, the experience, and largely the brains of the country on their side, while Bryan and his hosts have oratory and theories and debts and dissatisfaction on their side."

THE HORN-FLY.

The Worst Pest Which Afflicts Cattle in the South.

The horn-fly (*Hæmatobia serrata*) is one of the worst insect pests of cattle. It has spread all over the Atlantic States from a single center near Philadelphia, in 1887. This is a well-known pest of Southern Europe, and will prove more hurtful to the Southern States than to those having a colder climate.

The fly is about one-half the size of the ordinary house-fly, which it otherwise much resembles, but is more hairy. (Fig. 1.)

Fig. 1.—The horn-fly. (The short line shows exact size.)

These flies settle on the coat of the animal in some place where they cannot be reached by the tail or tongue, and there they bite and suck the blood, often in such vast numbers that the animals are rapidly depleted in flesh. Milch cows, especially thin-skinned Jerseys, suffer cruelly, and often fall off one-half or more in milk. The insect does not seem to trouble horses or other animals.

This fly lays its eggs in the fresh droppings of cows, and these hatch into tiny whitish maggots, which live in the dung three or four days. They then burrow a half inch or so into the ground beneath the manure, and remain quiet for about five days, at the end of which they emerge as winged flies. The number of generations in a season will depend upon its length. In the South there may be 12 or 15.

This fly has a habit of settling around the base of the cow's horns, which has led to many absurd stories about its eating the horn (Fig. 2.) The fly has no jaws. It can pierce with its lance, and suck with its proboscis, but never injures parts except where blood may be found. It settles upon the horns to rest, as the cow cannot easily dislodge them from that place. When seeking food, it settles, by preference, between the shoulders, along the belly and udder. Also, along the escutcheon, and at the base of tail.

Treatment: Remove all fresh droppings as soon as possible from stable, and mix with kainit. In pastures it will pay to send a man through every two days and scatter the droppings so they will dry out quickly. The eggs cannot hatch without moisture. Or sprinkle kerosene oil or emulsion on all fresh droppings. Fresh powdered lime will do as well, but lime decomposes the

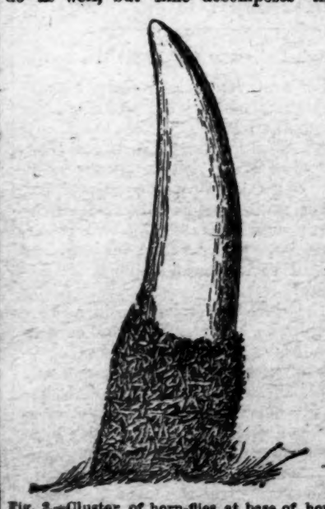


Fig. 2.—Cluster of horn-flies, at base of horn

nitrogenous materials, and causes the loss of the most valuable part of the manure.

As preventive measures, rub the parts where the flies most congregate with axle grease, or tallow, to which has been added a little crude carbolic acid. The Formula 18 may be rubbed on these parts with good results. This will drive the flies away, but the application must be renewed once a week.

The Formula is made as follows:

Pine tar	1 gallon.
Kerosene, fish oil or crude carbolic acid	1 quart.
Sulphur (powdered)	2 pounds.

Directions: Mix thoroughly. Use as salve for sores and to protect animals from flies. For protective purposes fish oil is better than kerosene.

A Cheap Ice-house.

EDITOR AMERICAN FARMER: The question is often asked, Why don't the farmers put up ice? Many of them do, more, however, do not. In regard to this latter class I am sure that if they would put up a few tons of ice one season they would never let a Winter pass again without a good supply for the next season.

Ice can be kept in any kind of a building,—a room partitioned off in one corner of the barn, etc.,—but the house I had in my mind is one often seen here in the West, where lumber is comparatively high.

A site is chosen, preference being given to a side hill sloping to the north, or a shaded place. A hole is dug in the ground about 8 by 10 feet square, and a pen built of rails or small logs around the edge, and as the dirt is thrown out the rails prevent it returning to the pit, and also forms a wall above the ground. If this excavation is made six or seven feet deep, then a wall of any cheap lumber, or even small logs, continued up far enough to make the cellar 10 feet deep in the clear, it will hold about 25 tons of ice, plenty for any ordinary family.

Any roof that will turn water will do. Coarse slough or river-bottom grass, the pumace from a sorghum mill, etc., thrown on a frame-work of poles, make an excellent cheap roof. If the ground has a stiff clay sub-soil no lining will be needed, otherwise it should be lined with cheap boards.

There should be plenty of ventilation above the ice. One or two pairs of ice-tongs, an ice saw, or even a cross-cut saw with one handle removed, are all the tools needed, except what can be found on any farm.

The cakes of ice should be cut to fit the house as far as length is concerned; for example, if the house is 10 feet one way in the clear, cut the cakes three feet one inch long; 20 inches wide make a convenient size for handling, unless the ice is very thick. I like to use as large cakes as I can, as they keep better than the small ones. A straight board 12 to 16 feet long should be used to lay out the squares of ice on the pond; near each end of this board and at right angles to the same nail a small strip as long as the cake of ice is to be, and make a plain mark on same to indicate the width of cake, then lay out pond by standing on board and drawing the saw along the edge of same, making a mark to saw by, being governed by the marks on the pointers nailed on the board. Cut the ice square, so it will fit close in the house. If possible try and haul on a sled to avoid the heavy lifting incident to using a wagon.

A very handy way to load is to lay the end-gate of the sled box, or any cleated board, on the ground (cleats down) at the end of the sled, take the tongs and draw a cake of ice upon the board lengthwise with same, then a man at each end of the board lifts and slides the cake into the box. Try and make the ice, if convient, of such size as to fill the sled box compactly as well as the house. Run the cakes closely together and fasten with rope or chain, to prevent sliding back or forward, as this is hard on the team and has a tendency to break the ice.

Make a slide to run the ice down into the cellar on, pack the cakes on edge, leave a space of four to five inches all around the outer edge, pack this tightly with sawdust, pound broken ice into all open spaces between cakes, or fill with sawdust. Finish a layer before beginning an other one, and cover top layer with four to six inches of sawdust. After warm weather comes walk over the ice every day or two and pack dust firmly around the edges, to prevent the air from starting into the layers.

A drain is an advantage, but not a necessity. Ice put up as briefly outlined above will keep as well as in a house costing $500. The work is done at a time of the year when the farmers are comparatively idle, and the increased amount of butter that can be made will go a long way toward paying the cost of the ice. A few dollars will buy a good refrigerator, and fresh meat, fish, butter, cream, etc., can be kept as well as in Winter. Our refrigerator (home-made) is filled but twice a week in the hottest weather—holds about 100 pounds of ice—and milk never sours in it, unless the ice is allowed to get too low. Try it one year, and if you are not satisfied sue me for damages.—J. A. NASH, Monroe, Iowa.

Cows seem often to become attached to sheep when habitually herded together, and when dogs molest, the cows will attack and drive them off, just as if the sheep were of their own kind. Small farmers, with a few sheep, therefore, will do well to herd them with the cows at night and permit them to graze together in day time.

Yard Echoes.

Prof. J. P. Roberts, of the Cornell University Experiment Station, says he has dishorned 1,000 head of cattle, and it is not cruel; cows herd better; they do not fight, and the operation is not as painful as pulling a tooth.

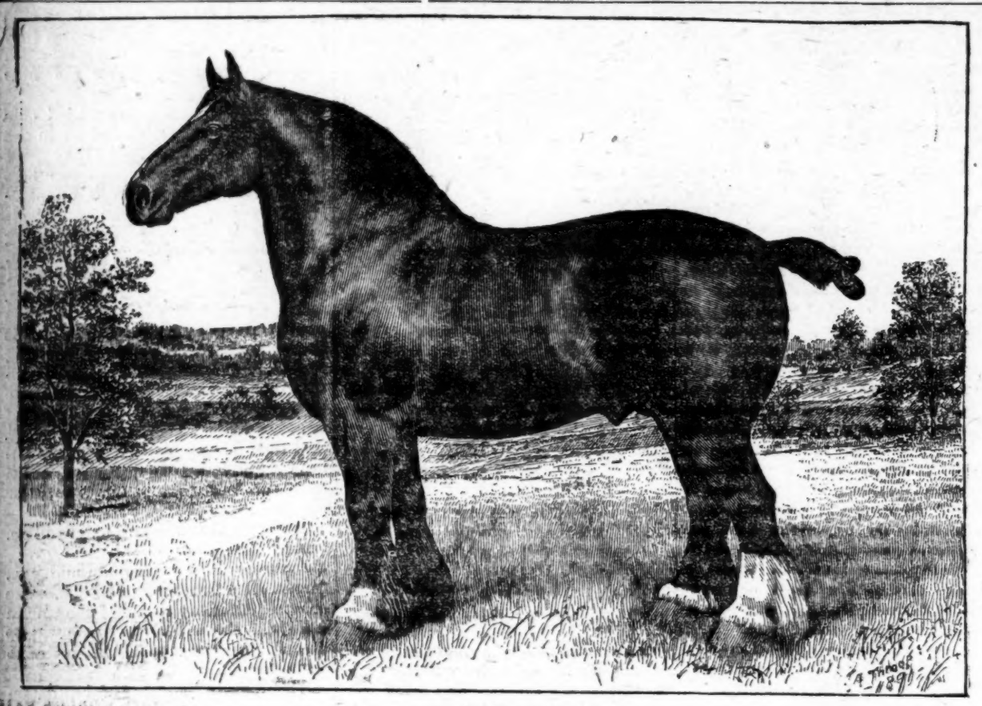
Silage corn only should not be fed to cattle, for neither in its nature nor in its constituency is it the requisite food to obtain the best results. It is excellent in combination with clover hay, supplemented with bran or shorts.

In feeding bran to cattle, feed it dry, and it is better to mix it with some fine cut hay or fodder. This cut feed should the top soft and thin just enough to droop a very little, is just about right. It will see enough to get out of the way of harm, it will not be run over by cattle and colts, and is not too indolent to hunt for its food. You will see that this ear is a compromise between the stiff, stand-up ear and the lop-eared hog, and the disposition and usefulness is in perfect accord. An extreme in either direction is objectionable.

There is much in the build and bone of the hog that should be observed. A big, coarse bone with loose joints indicates a lack of stamina or constitution that defeats the economical purpose of raising hogs. While this strong, firm daily a large area of pasture, with little time to rest, in order to sustain flesh and put on some growth. Such breeds cannot afford to do so much daily traveling, and under such treatment are sure to deteriorate rapidly. There are other breeds, lighter, more active, and hardier, that would be better adapted to our average Southern country and Southern pasturage.

The same objections urged against the Shorthorn and Hereford—and we might say Polled Angus, only modified somewhat—consists the why and the wherefore that the Holstein breed is not adapted to general Southern breeding, though this is more of a dairy than a beef animal. Where the pastures, however, are better than the general average, and the market for milk is a fairly-good one, and the owners are prepared to supplement the pastures with cheap grain feed, in such case the Holstein may be kept and bred with profit.

It seems that two breeds, the Devon and Scotch Galloway, are admirably suited to our pastures and climate, our general conditions and surroundings, so far as distinctive beef breeds are concerned. The Devon has, too, greater or less value as a dairy breed, but we are not considering that point now—we confine ourselves to beef values alone.



Major's Sort 3869.

Bay; foaled 1889; bred and owned by George E. Brown, Aurora, Ill.; sire, Holland Major 275 (3135); dam, Axte 377, by Lord Landolph (3830); grandam by Lincolnshire Tom (1367).

be sufficiently wet as to cause the bran to adhere. No farmer ever yet gave bran a fair trial who was not pleased with the result.

The Kind of Hogs to Raise.

That depends upon the size and age at the time of marketing them, and the kind and quantity of food supplies. The Berkshire is a neat, plump bacon hog, ready for the butcher at any age, and always brings the highest price in the pens or on the butcher's block—a grass-and-corn hog.

The Poland-China is a close second until one year old, and may then be pushed economically on corn. This is a clover-and-corn breed, and will pay for all it eats; but it must eat it, as it is not the real rustler as the Berkshire. Some farmers call this the corn-crib breed.

The Jersey Reds are the grass hogs. They thrive and grow on grass alone during the pasture season, and may be rapidly finished on corn at the close of the Summer. It is a hardy, strong, active, quiet hog, and is believed to be less inclined to the hog plague and other ailments than either of the above breeds. If this is so, and it is the general reputation among farmers, it is due to the fact that they are less artificial or pampered than other breeds. They are found to be vigorous because close to nature.

The Chester Whites, Cheshire, and other white breeds find favor with farmers that give clean, rational keep and do not require their hogs "to root hog or die." It may be recommended for farmers who keep a few fancy, pretty hogs. They grow to enormous size and yield great quantities of lard for family uses. There are several other breeds of swine, both white and black, that have special claims for the small, careful farmer, but are not met with in the stock-yards so commonly, so invariably, as the Berkshire and Poland-China breeds.

SELECTING HOGS FOR BREEDING.

Much depends upon the disposition of the hog for profit. A squealing, restless hog is a hard keeper, and will wear itself out tearing around rather than eating its rations and lying quietly in the shade growing fat. Some Berkshires, and now and then a Poland-China, resemble the scrub hog—the rail-splitter—in being nervous and uneasy. Such hogs are an unprofitable nuisance on the farm, and should be abolished as such. Fortunately these hogs carry the sign where it can be read by the experienced breeder. The ear is the indication of the disposition with a hog. The stiff, board-like ear that stands straight up is to be carefully avoided. This sort of a hog eats more, requires more age, and is the meanest sort of a hog to keep on the farm. It will learn all the bad tricks, eat chickens, lambs, and be on the wrong side of every question—even the profits.

The hog with the big lop ears coming down over the eyes is the lazy, readily-fattened sort, and often require attention that they get enough to live on. They are not quite active and rustling enough to get a good living without some considerable extra provisions and watchfulness. The hog with an upright ear, with bone and joints is perhaps of less importance now than formerly, when the Illinois farmers used to drive their fat hogs one or two hundred miles to market, this description of a hog will not have the physical force that resists hardship and disease, nor will it assimilate food as the opposite type into firm flesh—it is a squab.

It is remarkable but true that an expert judge of hogs will outline the make-up of a hog by seeing only its ear, or by seeing its hind foot and leg will describe the animal throughout, ear and all.

To answer the question, what kind of hogs to raise, we would say, the kind that suits your farm, your home uses, and the market where the surplus is sold. No other hog will suit you, and this cannot be overrated. Early maturity, or fattening at an early age, is all-important, not alone in the light of a revenue, but in avoiding the possible losses by hog plague. It is risky to hold a lot of pigs over one Winter, with the intention of fattening them at 18 months or two years old, as was done years ago. Thanks to the improvement of breeds, an eight or 10-months-old pig may be made to dress 250 pounds with great certainty and uniformity. By selecting a breed and observing the type that gives the greatest chances of success, the persistent, judicious handler may always find hog-raising, in connection with general farming, a pleasant, attractive, and profitable branch of live-stock husbandry.

Scotch Galloway Cattle for the South.

For many long years we have thought the Scotch Galloway breed of cattle was splendidly adapted to the Gulf and South Atlantic States. It is a distinctively beef breed, and its friends claim little or nothing for it as a dairy animal.

The South must have beef; then why not the best breeds suitable for our purposes, our pastures and climate and natural conditions and special requirements?

The breed to select is, in a large measure, to be determined by our surroundings. We must not make the mistake of presuming that the larger and more delicate and pampered breeds, like the Shorthorn, will adapt themselves as well and render equal satisfaction upon our scantier pasturage of native grasses as upon the luxurious pastures of the famous blue-grass region of Kentucky. The question, too, of economic food consumption is to be considered. And, again, the food, already provided in ample quantity and quality, whether we are prepared to attend the stock with the selfsame care in other respects as those in other States who have made Shorthorn breeding such a success, and have kept up the standard of the breed, and improved on it, too, to such a degree of perfection.

If the soil is poor, the grass thin, the herbage short and only fairly nutritious it would be rank foolishness to attempt to breed the large Shorthorn and the Hereford. The latter is a hardier and coarser breed than the other named, but its large size and ponderous weight will not admit of roaming and feeding over

The Devon has been widely tested throughout the South and has been found not wanting when weighed in the balance of personal experience.

The Galloway has had no fair trial among us, but its origin and history recommend the breed to very favorable consideration. Its general reputation in Colorado and those sections of the desert and treeless West where the grass is scant and the pasturage badly parched in Summer by a merciless sun; where in Winter the ground is covered with snow a goodly portion of the time, and the wind sweeps with icy blasts and relentless coldness across the unprotected prairies—since its reputation here is good, we need hardly apprehend but that it would soon become the same in our more genial and higher-favored Southland should the breed ever be so fortunate as to have a fair trial among us.

Several years ago the Mississippi A. and M. College, of this place, owned a few thoroughbreds of this breed, and quite a number of grades were raised, and these grades proved themselves extremely hardy and superior beef cattle. Several of them were stall-fed, and made heavier weights for the time and food consumed than the grades of any of the several breeds fattened at the same time.

The Galloway comes to us from southern Scotland and from near the coast. The soil is poor. The climate is not severe, but cloudy, misty, rainy. It is the climate and the "roughing it," exposed to so many vicissitudes of weather, without house protection, that makes the Galloway so shaggy. There are good reasons to believe that the Galloway and the Polled Angus came from the same wild stock. The reasons are many, and need not be dwelt on here.

There is no doubt that the finer coat of the Angus and its more shapely form and more generally refined and attractive appearance is the result of better pastures and grain feeding, housing, and a marked condition of climate. The Angus comes from northern Scotland, where the soil is rich and the farmers raise larger and more varied products, and are more progressive and expert feeders and handlers of cattle. Climate and feed and better human care have made the difference in the two breeds.

The absence of horns is a very considerable recommendation to the Galloway and Angus, as horns are useless appendages upon the heads of domestic cattle in these days of advanced civilization.—EDWIN MONTGOMERY, Starkville, Miss.

Red-Polled Cows.

The breed known as the red-polled Norfolk is excellent for the dairy and very good for beef. It has been bred for both purposes, and the few herds on this side of the ocean have a good reputation for milking and butter yield. The bulls make a good cross on horned animals, the cross bringing almost invariably hornless animals. Some crosses on Jersey cows have produced very satisfactory dairy animals, closely resembling the Jerseys when bred together. It would be preferable, doubtless, to dishorn the Jerseys and breed them pure than to cross them. The trouble with a cross breed is that one can never tell what the progeny may be like, while a pure breed reproduces itself certainly, and may be continually improved by selection and good culture.

Lumpy Jaw.

This disease is known by a swelling in the bones of the head, mostly in the jaws or cheek bones. It is contagious, and will spread through a herd if not prevented by the removal of the sick animal. There are no serious symptoms apparent until the bone becomes so decomposed that the animal cannot eat, when, of course, it starves. The remedy is to give one dram, or a half more for a large animal, of iodide of potassium daily for 10 days, then to stop for a week, and then repeat, and so on for a month. By this time the iodide will have penetrated the system and the tumor begin to head. It will not be removed, because the structure of the bone has been altered, but the animal suffers no more from the disorder, and the jaw retains its usefulness.

Poor Appetite in a Cow.

This may be due to several causes. Overeating will produce this result, especially if the grain food has been given in excess. Indigestion as the result of bloating by overfeeding of wet clover will cause this disorder, while any serious constitutional diseases will have the same effect. If the cow has a cough and breathes heavily after moving quickly, this latter cause is probable. It would be well to have the cow examined by one of the Inspectors appointed for the purpose as to the presence of tuberculosis, which there is reason to suspect. There is no cure for this disease. The animals should be slaughtered without delay.

Stiffness in Horses' Limbs.

This symptom indicates rheumatism, especially if it moves from one limb to another, or at times disappears. The remedy in such cases is to give a saline laxative, as Epsom salts. Two pounds will be a sufficient dose. Follow this with half-ounce doses of acetate of potassa, given daily, in a bran mash; bathe the limbs with hot water, or wrap them in woolen cloths dipped in hot water, after which rub well with camphorated soap liniment several times a day. Give the animal a soft bed of clean straw, and feed bran mashes or scalded oats. Moderate exercise will be beneficial.

A Wet Cellar.

The water cannot be prevented from coming into a cellar by mere cementing, as the pressure of it will in time force it through the cement. The only successful way will be to drain it by digging down a foot below the foundation and laying tiles to carry off the water. This may be done inside or outside, as may be wished. Then, to make the bottom proof against rats or moles, it may be covered with two or three inches of coarse concrete, of gravel or broken stone, with a finishing coat of smooth cement, consisting of one part of water-lime and three of good, clean, sharp sand. With this finish the cellar will be dry and not troubled with vermin. For a cellar 23 by 17 feet, eight barrels of cement and 24 of sand will be required, as one of cement and three of sand will make 12 cubic feet of the mixed mortar. The quantity mentioned will lay a floor three inches thick. This kind of floor is drier than one of brick, which is very absorbent of moisture.

SHEEP AND WOOL.

Shearings.

Stewart's Shepherd's Manual is as good and complete a sheep book as there is.

Sheep should be sheltered from heavy rains, and an open shed is the proper thing.

The best breed of sheep for a wet climate is the Merino, Rambouillet strain.

Keep your sheep off low land when damp or when any stagnant pools of water are on it.

Stock sheep will not need grain; but it would be well to give ewes a little before and after lambing.

The natural heat of the sheep is about 100°. Any dip that may be used should never be more than 20° above this temperature.

It has been found that a late dipping in the Fall has such an excellent effect upon the skin that the growth of the fleece is more than sufficient to pay all the cost of it, not to mention the comfort to the flock of a clean skin free from the tormenting ticks and the surety against scab.

If 80 or 90-pound lambs are the favorites of the present somewhat fastidious market, it may be well to remember that up to this fashionable weight the lambs of the heavy breeds have been mainly raised on mother's milk, and has cost the feeder but a trifle beyond the expense of the mother's keep.

The Advantages of Sheep.

An institute lecturer thus sums up the advantages of sheep:

1. They are profitable.
2. They weaken the soil least and strengthen it most.
3. They are enemies of weeds.
4. The care they need is required when other farm operations are slack.
5. The amount of investment need not be large.
6. The returns are quick and many.
7. They are the quietest and easiest handled of all farm stock.
8. Other farm products are made more largely from cash grains, while those from the sheep are made principally from pasture.
9. There is no other product of the farm that has fluctuated so slightly in value as good mutton.
10. By comparison wool costs nothing, for do not the horse and cow in shedding their coats waste what the sheep saves?

Southdown Sheep.

EDITOR AMERICAN FARMER: In 1844, I landed in Southampton, Eng., with a feeling of wanting something to eat; went into a restaurant and ordered mutton chop, with rolls and coffee. The chop was about an inch thick—tender, juicy, and sweet; and I can recollect the pleasure I had in eating it to this day. Three months later, on landing in New York, I ordered the same, and got a chop that had the appearance of a sheep's rib with a thin piece of leather attached to it, and was relished about as it looked. But that don't prove but what as good mutton can be grown in this country as in England. I find that flock-masters have been going for what will bring the most money, and the poor sheep are crossed and bred for all wool or tallow. I am of the same opinion of our old Kentuckian, that, owing to the uncertainty of the tariff, it is best to settle on a breed for good mutton, with wool enough to keep the animal comfortable in making it; and the Southdown is the right sheep. Shorthorn cattle have been brought here from England, and better specimens have been sent back; and the same can be done with sheep.—J. E. C., Catonsville, Md.

An English Journal on Mutton.

Commenting on a statement made by a correspondent of a Western American paper to the effect that in Missouri he has eaten "Merino chops as rich and juicy, as fine in flavor and even finer in grain than the celebrated English chop," the London *Live Stock Journal* says:

"It is fairly near the truth to say that in every civilized country but Great Britain the Merino is the predominant breed of sheep, and would also be substantially accurate to say that in no country but Great Britain is good mutton common. The vast majority of Americans have never seen a decent piece of mutton, and, in fact, comparatively few of them attempt to eat mutton at all. As the improved mutton breeds of this country make their impression gradually on the sheep stock of the States, so the American public is slowly learning that mutton, when properly bred and fed, is the finest meat-food which Providence has vouchsafed to mankind."

Feed Required for a Hundred Sheep During the Winter.

A flock of 100 sheep will consume about 100 bushels of corn, or twice as much oats, but less if this grain is fed in the sheaf. Six tons of bran will be needed, which is a quarter of a pound daily per head, if the flock is to be kept in good condition, and is made up of large sheep, as the Hampshires. If a few tons of turnips are provided the bran may be reduced one-third of the quantity mentioned. This feeding may be reduced one-half if the sheep are to be merely kept in fair store condition; the allowance is for a fattening flock.

The Best Pigs for a Milk Dairy.

The small breeds of pigs are the most profitable for feeding to use the waste milk from a butter dairy. The small Yorkshire is an excellent breed, as is also the Essex and the Berkshire, although these two black kinds will reach a large size by longer feeding. But, as they will weigh 250 pounds at five months old, they are large and small enough for profit. It is a rule with all kinds of animals and all kinds of feeding that the younger animals are when ready for slaughter the cheaper the meat is made. Thus, a four months' old 200-pound pig is the cheapest pork that can be made, especially if it is reared on waste milk and clover pasture and finished by corn meal.

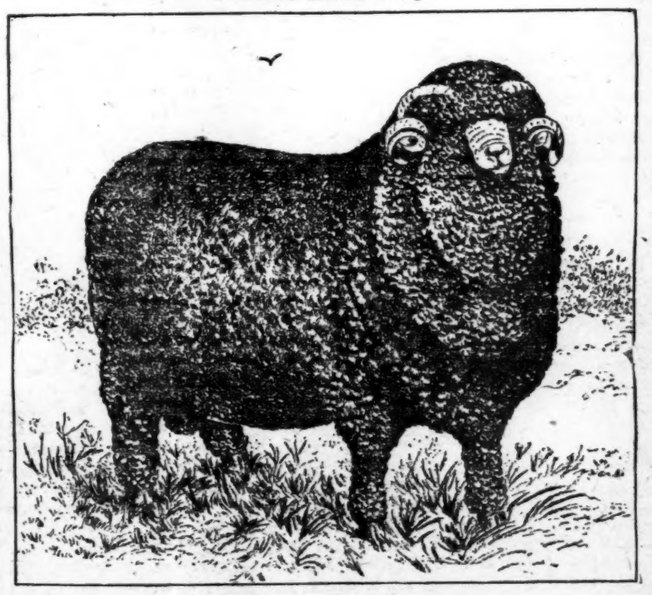
Using Horse Manure as Absorbent in a Cow Stable.

This plan is adopted in some high-class and successful dairies, but it is hardly advisable except under the most careful management, by which the imminent risk of giving a bad odor to the milk may be avoided. There is no use for it any way, for there is a place for the horse manure where it may be kept with more safety than in or under the cow stable, and litter of quite inoffensive character is easy enough to procure. It would greatly help to increase the stock of manure to litter the cows with dry swamp muck, which is antiseptic, as well as an excellent absorbant, and is equal in value to the manure itself as a fertilizer.

How Lime is Applied.

Lime is used in this way: Spread the freshly burned lime in half-bushel heaps, if 20 bushels are to be used—if 40 bushels, one-bushel heaps are made—at a distance of two rods each way, which will cover one acre. Leave these exposed to a shower or to the weather until the lime is slaked into a fine, dry powder, when it is spread by long-handled shovels so as to reach 16 feet each way, by which the heaps thus spread will meet all over the ground. The effect will be the whitening of the land all over. This is done after the plowing and the first harrowing if the seed is sown broadcast; if the seed is drilled, it is done on the plowed land, and harrowed immediately after, and the seed is then sown.

Dickinson Merino Sheep.



"WONDERFUL," THE CHAMPION SHEEP OF THE WORLD.

The accompanying engraving, says R. M. Bell, portrays Wonderful 700, which is claimed to be the most remarkable sheep in America. The Dickinson sheep is a thoroughbred from the Humphrey importation of 1802, a full cousin to the world-wide famous Atwood Merino sheep of Vermont, which, as a wool sheep, remain without a rival. This strain of Merino sheep has been bred carefully, never going outside of the flock for a ram for 72 years. Wonderful at his best, before he was three years old, weighed 250 pounds, and sheared 46 pounds of wool at three years old that was good enough to capture the prize as a single fleece at Chicago at the World's Fair in 1893.

FOWLS: CARE AND FEEDING.

Practical Ideas for Successful Poultry Raising.

(Continued from last month.)

DRINKING FOUNTAINS.

One of the difficult problems for the poultryman to solve is how to easily provide pure, fresh water for his fowls. Many patent fountains which are on the market are automatic and keep before the fowls a certain quantity of water. Under certain conditions these fountains serve an admirable purpose. Under more adverse conditions many of these patent contrivances fail to give satisfaction, for the simple reason that it is impossible to keep them clean. If fowls were fed only whole grain and the weather was always cool, it would be a comparatively easy matter to provide satisfactory automatic drinking fountains, but as soft food forms a considerable portion of the diet for laying hens and fattening fowls, these fountains are necessarily more or less fouled and in warm weather soon become unfit for use as drinking fountains, on account of the tainted water and disagreeable odor.

A simple, wholesome arrangement may be made as follows: Place an ordinary milk pan on a block or shallow box, the top of which shall be four or five inches from the floor. The water or milk to be drunk by the fowl is to be placed in this pan. Over the pan is placed a board cover supported on pieces of lath about eight inches long, nailed to the cover so that they are about two inches apart, the lower ends resting upon the box, which forms the support of the pan. In order to drink from the pan it will be necessary for the fowls to insert their heads between these strips of lath. The cover over the pan and the strips of lath at the sides prevent the fowls from fouling the water in any manner, except in the act of drinking. Where drinking pans of this kind are used, it is very easy to cleanse and scald them with hot water as occasion demands. This arrangement can be carried a little further by placing a pan, or, what would be still better, a long narrow dish, something like a tin bread tray, on

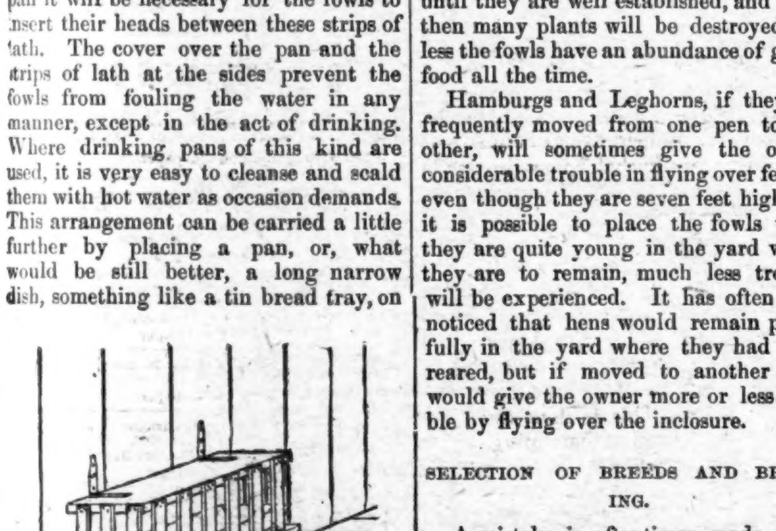


Fig. 3.—Drinking fountain.

a low shelf a few inches from the floor, and hinging the cover to one side of the poultry house, so that it can be tipped up in front for the removal of the dish or for filling it with water. (See fig. 3.) Whatever device is used, it must be easily cleaned and of free access to the fowls at all times.

DUST BOXES.

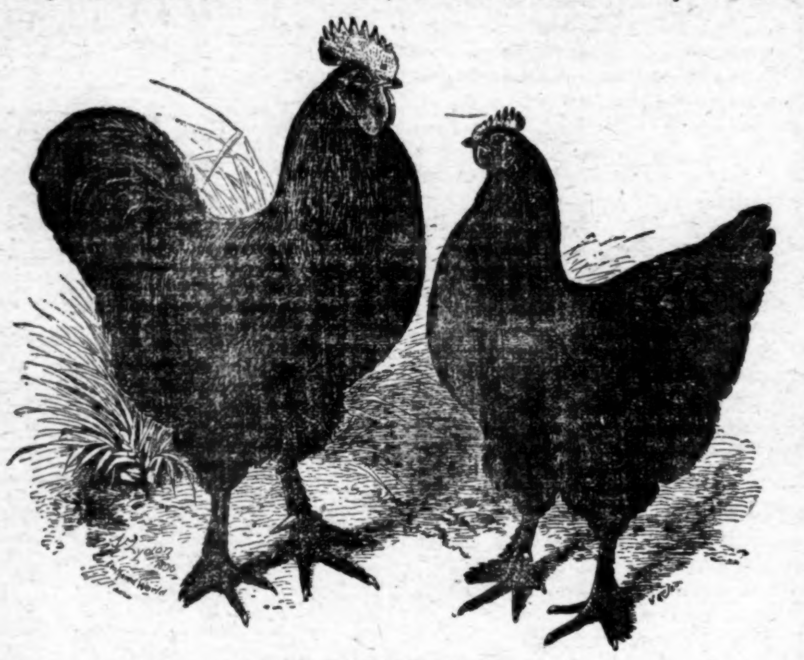
It is necessary to provide dust boxes for fowls during the Winter months if they are to be kept free from lice. If the soil in the yards is naturally dry and porous, abundant opportunities will be had for dust baths during the warm Summer months, but during the late Fall, Winter and early Spring some artificial provision must be made. A comparatively small box will answer the purpose if the attendant is willing to give a little attention to it each day. These boxes should be placed so that they will receive some sunshine on each bright day, and be kept well filled with loose, fine earth. Road dust procured during the hot, dry months of July and August from much-traveled roads has no superior for this purpose. Probably there is no way in which the poultryman can better combat the body louse than by providing dust boxes for his fowls.

YARDS OR PARKS.

Where fowls are kept in confinement it will be found best to provide outdoor runs or yards for them during the Summer months. Give them free access to these yards whenever the weather will permit. The most economical form, everything considered, for a poultry yard is one much longer than wide. Two rods wide and eight rods long is sufficient for 50 fowls. Whenever a poultry plant of considerable size is to be established it will be found most economical to arrange the yards side by side, with one end at the poultry house. The fences which inclose these yards may be made of poultry netting or pickets, and should be at least seven feet high. In either case it is best to have a board at the bottom, for sometimes it will be desirable to give quite young chickens the run of these yards.

If the poultry yards are constructed as described, there is sufficient room for a row of fruit trees down the center of the yard, and still leave ample room for horse cultivation on either side, either with one or with two horses.

These yards are to be kept thoroughly cultivated. If thought best, grain may be sown before cultivation, to furnish part of the green food for the fowls. Of all fruit trees, probably, there are none that are more suitable for the poultry yard than the plum. The droppings of the fowls will manure the trees, and the fowls as insect destroyers perform a great office in protecting plums from the curculio. After the trees are once well established, a crop of plums should be secured nearly every year. These, too, will require no extra cultivation. The plum trees perform a valuable service in providing shade for the fowls. Where trees are not available, sunflowers may be used for this purpose with a considerable degree of satisfaction. However, some protection must be given the plants until they are well established, and even then many plants will be destroyed unless the fowls have an abundance of green food all the time.



PAIR OF LANGSHANS.

Hamburgs and Leghorns, if they are frequently moved from one pen to another, will sometimes give the owner considerable trouble in flying over fences, even though they are seven feet high. If it is possible to place the fowls when they are quite young in the yard where they are to remain, much less trouble will be experienced. It has often been noticed that hens would remain peacefully in the yard where they had been reared, but if moved to another yard would give the owner more or less trouble by flying over the inclosure.

SELECTION OF BREEDS AND BREEDING.

A mistake is oftentimes made in selecting fowls of a breed that is not suited for the purposes for which they are to be kept. If egg production is the all-important point, it is a most serious mistake to select a breed of fowls that is not noted for this product. If, on the other hand, meat is the chief object, an expensive mistake will be made if any but the heavy-bodied fowls are chosen. The small, active, nervous, egg-producing breeds cannot compete with the larger phlegmatic Asiatics for meat production. Then, too, if fowls are kept for both eggs and meat production, some breed of the middle class should be chosen. These, while they do not attain the great size of the Asiatics, are sufficiently large to be reared profitably to supply the table with meat, and at the same time have the tendency for egg production developed sufficiently to produce a goodly number of eggs during the year. The Wyandottes and Plymouth Rocks are good illustrations of this class of fowls. While individuals of these breeds have made excellent records in egg production, the records of large numbers do not compare favorably with the egg production of the Mediterranean fowls. All of the so-called Mediterranean fowls have a great tendency toward egg production, and require only the proper food and care to droduce eggs in abundance.

A serious mistake is also made in selecting fowls for breeding purposes and in selecting eggs for hatching. On many farms the custom is to select eggs for hatching during the Spring months, when nearly all of the fowls are laying. No matter how poor a layer a hen may be, the chances are that most of the eggs will be produced during the Spring and early Summer months. A hen that has laid many eggs during the Winter months is quite likely to produce fewer eggs during the Spring and early Summer months than one that commenced to lay on the approach of warm weather. Springtime is nature's season for egg production. All fowls that produce any considerable number of eggs during the year are likely to be laying at this time. It is therefore plain that whenever eggs are selected in the Springtime from a flock of mixed hens, composed of some good layers and some poor ones, a larger per cent. of eggs will be obtained from the poor layers than at almost any other season of the year. A serious mistake is therefore made in breeding largely from the unprofitable fowls. Whenever it is possible, fowls that are known for the great number of eggs they have produced during the year should be selected for the breeding pen. While it will be almost impossible, and certainly impracticable, in the majority of cases to keep individual records of egg production, yet a selection may be made that will enable the breeder to improve his flock greatly.

The two things necessary to produce large quantities of eggs with the Mediterranean fowls are: (1) Proper food and care, and (2) a strong constitution, which will enable the fowls to digest and assimilate a large amount of food; in other words, fowls so strong physically that they will stand forcing for egg production. In this relation, we may look at the fowl as a machine. If that machine is so strong that it can be run at its full capacity all the time much greater profit will be derived than if it can be run at its full capacity only a part of the time.

There is, perhaps, no time in the history of the fowl that will indicate its vigor so well as the molting period. Fowls that molt in a very short time and hardly stop laying during this period, as a rule, have strong, vigorous constitutions, and if properly fed give a large yearly record. On the other hand, those that are a long time molting have not the vigor and strength to digest and assimilate food enough to produce the requisite number of eggs. If it is necessary to select fowls at some time during the year other than the molting period, some indication of their egg-producing power is shown in their general conformation. In selecting a hen for egg production her form will give some indication of value. A long, deep-bodied fowl is to be chosen rather than one with a short body, whose underline is not unlike a half circle. A strong, hearty, vigorous fowl usually has a long body, a deep chest, with a long and quite straight underline. Other things being equal, the larger bodied fowls of the egg breeds are to be preferred. It is a rule that fowls bred for egg production are larger bodied than those bred for fancy points. Whenever vigor and constitution form an important part in the selection of fowls for breeding the size of the fowls is invariably increased.

FEEDING.

In feeding for egg production, a valuable lesson may be learned from nature. It will be observed that our domestic fowls that receive the least care and attention, or, in other words, whose conditions approach more nearly the natural conditions, lay most of their eggs in the spring-time. It is our duty, then, as feeders, to note the conditions surrounding these fowls at that time. The weather is warm, they have an abundance of green food, more or less grain, many insects, and plenty of exercise and fresh air. Then, if we are to feed for egg production, we will endeavor to make it spring-time all the year round; not only to provide a warm place for our fowls and give them a proper proportion of green food, grain, and meat, but also to provide pure air and plenty of exercise.

Farmers who keep only a small flock of hens, chiefly to provide eggs for the family, frequently make a mistake in feeding too much corn. It has been clearly proven by experiment that corn should not form a very large proportion of the grain ration for laying hens; it is too fattening, especially for hens kept in close confinement. Until the past few years corn has been considered the universal poultry food of America. This, no doubt, has been largely brought about by its cheapness and wide distribution. The recent low prices of wheat have led farmers to feed more of this grain than formerly, and with a consequent improvement in the poultry ration.

When comfortable quarters are provided for the fowls the nutritive ratio of the food should be about 1:4; that is, one part of protein or muscle-producing compounds to four parts of carbohydrates or heat and fat-producing compounds. Wheat is to be preferred to corn. Oats make an excellent food, and perhaps come nearer the ideal than most any other single grain, particularly if the hull can be removed.

Buckwheat, like wheat, has too wide a nutritive ratio if fed alone, and produces a white flesh and light-colored yolk if fed in very large quantities. In forcing fowls for egg production, as in forcing animals for large yields of milk, it is found best to make up a ration of many kinds of grain. This invariably gives better results than one or two kinds of grain, although the nutritive ratio of the ration may be about the same. It has been found by experiment that the fowls not only relish their ration more when composed of many kinds of grain, but that a somewhat larger percentage of the whole ration is digested than when it is composed of fewer ingredients. It has been clearly proven by experiment that food consumed by the fowls influences the flavor of the eggs; that in extreme cases not only is the flavor of the food imparted to the eggs, but also the odor. This, of itself, is sufficient reason for always supplying wholesome food for the fowls, and seeing to it that none but wholesome food is consumed.

It is conceded by the majority of poultrymen that ground or soft food should form part of the daily ration. As the digestive organs contain the least amount of food in the morning, it is desirable to feed the soft food at this time, for the reason that it will be digested and assimilated quicker than whole grain. A mixture of equal parts, by weight, of corn and oats, ground, added to an equal weight of wheat bran and fine middlings, makes a good morning food if mixed with milk or water, thoroughly wet without being sloppy. If the mixture is inclined to be sticky, the proportion of bran should be increased. A little linseed meal will improve the mixture, particularly for hens during the molting period, or for chickens when they are growing feathers. If prepared meat scrap or animal meal is to be fed, it should be mixed with this soft food in proportion of about one pound to 25 hens. It will be necessary to feed this food in troughs to avoid soiling before it is consumed.

The grain ration should consist largely of whole wheat, some oats, and perhaps a little cracked corn. This should be scattered in the litter which should always cover the floor of the poultry house. It is necessary to have the floor of the poultry house covered with a litter of some kind to insure cleanliness. Straw, chaff, buckwheat hulls, cut cornstalks, all make excellent litters. The object of scattering the grain in this litter is to give the fowls exercise. All breeds of fowls that are noted for egg production are active, nervous, and like to be continually at work. How to keep them busy is a problem not easily solved. Feeding the grain as described will go a long way toward providing exercise. If the fowls are fed three times a day they should not be fed all they will eat at noon. Make them find every kernel. At night, just before going on the perches, they should have all they will eat up clean. At no time should mature fowls be fed more than they can eat. Keep them always active, always on the lookout for another kernel of grain.

GREEN FOOD.

While perhaps not strictly necessary for their existence, some kind of green food is necessary for the greatest production of eggs. Where fowls are kept in pens and yards throughout the year, it is always best to suppy some green food. The question how to supply the best food most cheaply is one that each individual must solve largely for himself. In a general way, however, it may be said that during the Winter and early Spring months, mangel-wurzels, if properly kept, may be fed to good advantage. The fowls relish them, and they are easily prepared. As it is not difficult to grow from 10 to 20 tons of these roots per acre, their cost is not excessive. In feeding these beets to flocks of hens a very good practice is simply to split the root lengthwise with a large knife. The fowls will then be able to pick out all of the crisp, fresh food from the exposed cut surface. These large pieces have the advantage over smaller pieces in this respect: The smaller pieces when fed from troughs or dishes will be thrown into the litter and soiled more or less before being consumed by the fowls, and, in fact, many pieces will become so dirty that they will not, nor should they, be eaten. Large pieces cannot be thrown about, and remain clean and fresh until wholly consumed.

Clover, during the early Spring, is perhaps one of the cheapest and best foods. It is readily eaten when cut fine in a fodder-cutter, and furnishes a considerable amount of nitrogen. If clover is frequently mowed, fresh food of this kind may be obtained nearly all Summer, particularly if the season be a wet one. Should the supply of clover be limited, or the season unusually dry, green food may be cheaply and easily grown in the form of Dwarf Essex rape. This should be sown in drills and given the same cultivation as corn or potatoes. When the rape is from eight inches to a foot in hight it may be cut and fed. It furnishes a fresh, crisp food that is readily eaten. If cut a few inches from the ground, a second and sometimes a third crop will be produced from one seeding. Alfalfa will also furnish an abundance of green food. It must, however, be cut frequently, each cutting being made before the stalks become hard or woody.

A good quality of clover hay cut fine and steamed makes an excellent food for laying hens if mixed with the soft food. Cabbages can be grown cheaply in many localities and make excellent green food so long as they can be kept fresh and crisp. Kale and beet leaves are equally as good and are readily eaten. Sweet apples are also suitable, and, in fact, almost any crisp, fresh, green food can be fed with profit. The green food, in many instances, may be cut fine and fed with the soft food, but, as a rule, it is better to feed separately during the middle of the day.—*Bulletin No. 41, U. S. Department of Agriculture.*

[For the leisure hour of readers, old and young. All are invited to contribute original puzzles and send solutions to those published. Answers and names of solvers to this issue will appear in two months. An asterisk (*) after a definition signifies that the word is obsolete. Address letters for this department: "Puzzle Editor," AMERICAN FARMER, 1729 New York Ave., Washington, D. C.]

ENUCLIATIONS NO. 28.

248—S-oft. 251—So-on.

249—
GADSMAN
ANATINE
DATARIA
STABBER
MIRBANE
ANIENTS
NEAREST

250—
EASTMAN
ASARONE
SAVONIA
TROTTER
MONTONE
ANIENTS
NEAREST

252—
P
MES
MANTO
MORNANT
MARTYRDOM
PENNYALINER
STARLINGS
ONDINGS
TONGS
MES
R

253—
Q
PUE
TRINS
TRENDLE
PRESQUILE
QUINQUEVIRI
ENDUEMENT
SLIVERS
ELINS
ERT
I

254—Two real versions of love.

255— 256—
L E H B A D
A L L O C O N E B N E B
L E G A T E S B A B B L E S
L E A D E R E Q U A L L
G O R A L B Y R O N
L A T E R A B U T R I O
E A R A B L E A B R O N I A
O D E L E T N A R I C A
T A B O A L O N G S
C E R E Z O E L I C I T
H E L L A D A D E N I S O N
O R A T O R B L O A T S
S E A S A N

257—Rock-rose. 260—Pens-i-on.

258—
G
TRE
CRAMS
CLASPES
TRANSLATE
GRASSPOLIES
EMPLOYEES
SEALERS
STIES
EES
S

259—
G
TRI
CRANS
CLASSED
TRANSOMED
GRASSPLOVER
INSOLATED
SEMOTED
DEVED
DED
R

261—
KARATAS
AVARAMO
RADICAL
ARIZONA
TACONIC
AMANITE
SOLACED

262—
JOCASTA
ORONTES
COLTERS
ANTONIA
STENTON
TERIOLI
ASSANIE

Authors of word-forms: Poly (2), Kenneth, C. Saw, Primose (2), Gi Gantic (2), Miss Fit, A. Dandy.

ENIGMANIACS.

(June and July.)

Complete Lists: None.

Incompletes: Ellsworth, Poly, Maude, Gi Gantic, C. Saw, Kenneth, Arty Fishel, Cinders, Holly, King Cotton, Stocles, 2 E. Z., Lo Yell, Pennock, Joel H. Hint, Remardo, Ben Trovato, Malenco, Guidon, Primrose, Pearlie Glen, Jason, T. O'Boggan, Carl, Pansy, Dan D. Lyon, Harry, Mazy Masker, Orlando, Pearl, F. L. Smithe, Lillian Locke, N. E. Moore, Frantz, Caro, Swamp Angel, Si. Key, Miss Chief, Oloffe Innished, Cosette, Jo Urnal, Rex Ford, A. N. Drew, Newcomer, G. Race, Alumnus, Eugene, A. L. Vin.

Prize Winners.

1. Ellsworth. 2. Eugene. 3. N. E. Moore, 4. Guidon.

ENIGMANIA—NO. 31.

NO. 282—TRANSPOSITION.

Across the plain yon mountains high
Lie PRIME but to the very sky,
Whilst at their base, along the stream,
Oft FINE canoes, in years gone by,
Of Indian chiefs. Tho' now a dream
'Tis but a sweet, poetic theme.
—PRIMROSE, Baltimore, Md.

NOS. 283-4—SQUARES.

1. Province of Italy. 2. Antlers of a stag or buck. 3. In a standing position. 4. Pertaining to the family of nuthatches. 5. Raises.* 6. Kinds of apples. 7. The same. (World's Cyc.)

1. Italian ecclesiastical writer; 1712-1789. 2. Fabricates mentally. 3. To recover from. 4. One of the chitinous supports, or veins, in the wings of insects. 5. Groins. 6. A Linnean genera of Laridæ. (Cent.) 7. The same. (World's Cyc.)
—X. L. C. R., Lyons, N. Y.

NO. 285—TERMINAL DELETION.

(To the picture of an unknown actress.)

Light wavy tresses and eyes that would soften
Even the hearts of worse cynics than I;
Bringing my gaze to thy features so often,
Thou canst but feel there's a worshiper nigh.
Wond'ring why ONE has ne'er brought us together;
Riches I'd banish FINE sight of your face;
Braving the devil in all kinds of weather,
If in your heart you would give me a place.

Nightly the theatres I've haunted, but never
Yet have your features shown out as a star;
Making my lonely heart drearer than ever,
Sending my spirits, once bright, below par.
Can it be thou'rt only a maid in the ballet,
Cast for no part save the fantastic whirl?
No. Something inwardly tells me you're Sally,—
Plain Sal McGuiness,—a cigarette girl.
—H. S. NUT, Boston, Mass.

NOS. 286-7—DIAMONDS.

1. A letter. 2. The ball of thread on the spindle of a wheel. Oosy growths on a vessel's bottom. (Stand.) 4. Eggs. (Stand.) 5. Women's short cloaks. 6. Bed-rooms. 7. Designating beforehand. 8. Entangling. 9. A stroke. 10. The yellow flower-de-luce. (Stand.) 11. A letter.
—FRANTZ, Binghamton, N.Y.

1. A letter. 2. Genoese historical painter, 1820. 3. Premiums on a better sort of money when given in exchange for an inferior sort. 4. A pedestal, forming part of a roof balustrade. 5. A morbid desire for living in the country. (Stand.) 6. A sub-family of heteropterous insects. (Cent.) 7. Kinds of sauces or pickles. 8. Aged persons. 9. Deep ditches. (Stand.) 10. A village of France. 11. A letter.
—REX FORD, Alplaus, N. Y.

NO. 288—TRANSPOSITION

(To Poly.)

The tale of the Wandering Jew,
Predestined to wander for e'er,
The life often brings to my view
Of a singular ill-fated square;
It causes the mystics to swear
Whenever its outlines they trace;
Its age to infer none will dare—
Osselet is the word at the base.

The knights of the mystical crew
Recall with surprise and despair
What eagerness led them to do
In the strife mystic honors to share;
To me it seems hardest to bear
The stigma of falling from grace,
Through a try at the "seven" where
Osselet is the word at the base.

The tyro, to mystic ways new,
Progressing with slowness, seems ne'er
To swerve from the track most pursue
In the hope of unearthing the rare;
Determined to make the knights stare
The seven square's FIRSTS he will face;
'Tis plain, e'er time LAST to compare,
Osselet is the word at the base.

L'Envoie.

Again let us venture the prayer
That its coffin may soundly encase
That square which well TWO better fare—
Osselet is the word at the base.
—C. SAW, New York City

NOS. 289-90—DIAMOND.

1. A letter. 2. A piggin. 3. The whole. 4. A girl who attends the customers at a bar. 5. The body of persons employed in some public service. 6. The puzzlers—Paradise. 7. Affected with glanders. 8. A town of Spain. 9. Erases. 10. An eyelid. 11. A letter.

1. A letter. 2. A frolic. 3. Varient of dere. 4. Amphibious, insectivorous mammals found in Russia. 5. Answerable.* 6. A puzzle club of Philadelphia. 7. P. O., Saline Co., Mo. 8. To cover with scales. 9. A mud volcano. 10. A Province of Beloochistan. 11. A letter.—STOCLES, Mt. Vernon, Ill.

NO. 291—CHARADE.

(To Iron Mask.)

All forebodings that distressed me
I forgot as joy caressed me—
(*Lying* joy! that caught and pressed me
In the arms of doom!)
—RILEY, LEONAINIE.

Why did I do it?—go ask the sun
Why he sinks to rest when the day is done,
Go ask the leaf why it lived no more
When the Summer's reign of delight is o'er;
But ask not me why I quit that strife
With the powers of death which men call life.

I was young, but the fire of my life burned low
As the camp-fire does when the drifting snow
Comes steadily down, with a swirl and a hiss,
To smother its warmth in a yielding kiss.
As those flakes were my sorrows, till Nainie came,
To wake in the embers a throb of flame;
To kindle my heart in the fire of love
Till its burning sent through my blood and brain
A painful pleasure, a pleasant pain,
That lifted my soul to the realms above;
To teach me the lesson that not quite all
Of life was double-distilled from gall,
And that love had been, since the world began,
The world's best balm for the woes of man.

Our troth was plighted, and, each a May,
The months rolled 'round to our wedding-day.
The words were uttered that bound for life
Us two together as man and wife.
THE TOTAL to measure my perfect bliss
In my Nainie's heart-beat, and glance, and kiss,
I turned—ah, God! must it come to this?—

My cup of joy, that moment filled,
Raised to my lips, was instant spilled,
For my Nainie, fair and lissome,—
She, my more than bonny bride—
As I clasped her to my bosom
On that bosom sobbed and died!

That moment of pleasure, that awful pain
Of its passing, flamed through my FINAL brain,
And the meteor trail of my joy's swift flight,
Expiring, left darkness of more than night.

I go to seek her, and soon shall know
If the great beyond holds aught but woe.
The world may mock, and point, in its pride,
With PRIMAL scorn at the suicide,
And shun in abhorrence his lonely grave
Who took the life that the Father gave,
But *I* learned, 'mid that tempest of Fate's red breath,
That life held terrors surpassing death.
—SWAMP ANGEL, Rock Falls, Ill.

NO. 292—RHOMBOID.

Across: 1. Writs that lie for spiritual persons, upon forfeiture of a recognizance, without the King's writ. (Bailey.) 2. Town of Chorasau. (Worc.) 3. Town of England. 4. Stimulates. 5. Surname of Ceres. (Lemp.) 6. Hydrous arsenates of copper. 7. Loss of movement. 8. A salt, whatever its constitution, which merely gives an acid reaction.

Down: 1. A letter. 2. River of Russia. 3. An animal of various species. 4. A town of Turkey. (Worc.) 5. Checks. 6. To request. 7. A town of Portugal, in Alemtejo. 8. Town of Naples in Otranto. (Worc.) 9. Derived from resin. 10. Things which resemble a net. (Dungl.) 11. Situated.* 12. A tax.* 13. Town of China. (Worc.) 14. If.* 15. A letter.
—DAN D. LYON, Wall, Pa.

ENIGMIANA.

Before we again address our friends through the medium of "Enigmiana," cold weather will have set in, and the long, chilly evenings, so conducive to the welfare of Puzzledom, will be on hand to give fresh impetus to many a supporter of "The Enigma." We are desirous of opening up the cold-weather campaign in vigorous style, and to decoy the mystics from their Summer slumber we offer a half-dozen subscriptions for contributions, as follows:

1. For best pair of verse puzzles.
2. For 2d best pair of verse puzzles.
3. For 3d best pair of verse puzzles.
4. For best square.
5. For best diamond.
6. For best pyramid or inverted pyramid.

These prizes are open to *all*, and we are in hopes a large number of our friends will enter the competition, marking all contributions so entered "For prize."——Dan D. Lyon should now be addressed Geo. L. Hamilton, Pitcairn, Pa.——The register at Hotel Johnson, this city, on Saturday last contained the signature of Chas. L. Halberstadt, jr., of New York. We did not learn until after his departure that so noted a personage as Alcyo had visited Washington, but we are informed that K. T. Did acted as "chief sight shower," and consequently "Al" did not get lonesome.——The August number of *Quillets* contains the wind-up of *Mystic Era* affairs, and holds up the journalistic honors of the Dom. Where, oh where, is *The Oracle*?——Arty Fishel's ideas of a testimonial issue to the Ardmoreans was cleverly carried out and much creditable work presented.

10-1-'96. R. O. CHESTER.

The people of Great Britain consume less tobacco per head than those of any other civilized country—only 23 ounces to the inhabitant.

Established - - - 1819.

77TH YEAR.

THE AMERICAN FARMER.

"O fortunatos nimium sua si bona norint agricolas."—VIRG.

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☞ When sending in subscriptions specify whether for General or Southern Editions. Unless specially directed for the Southern Edition, all subscriptions will be entered for the General Edition.

TO ALL TO WHOM THIS PAPER SHALL COME.

Greeting: This paper is sent you that you may have an opportunity to see it and examine it, with a view to subscribing. We ask you to compare its contents, objects, and price with those of other papers, and see if you do not come to the conclusion that you ought to have it; that you cannot afford to do without it. We can assure you that if you send in your name for one year that you will find it one of the most profitable investments that you can make. We hope to make and keep it so interesting that you will think that every number more than repays you for the subscription price for a year. Please call your neighbor's attention to the paper.

OUR CLUBBING LIST.

The American Farmer Will be Sent in Connection With Any Other Paper or Magazine.

We will send THE AMERICAN FARMER and any other paper or magazine in the country at a reduced rate for the two. The following is a partial list of the periodicals that we club with:

Name of Periodical.	Regular Price.	With the American Farmer.
Pansy	$1 00	$1 00
Our Little Men and Women	1 00	1 00
Babyland	50	90
The National Tribune	1 00	1 10
American Gardening	1 00	1 10
Scientific American	3 00	3 00
American Swineherd	50	65
Cosmopolitan Magazine	1 50	1 50
Monthly Illustrator	2 00	2 00
Arena (including Art Premium)	5 00	5 00
Century	4 00	4 00
Scribner's	3 00	3 00
Lippincott's	3 00	3 00
Atlantic	4 00	4 00
Forum	3 00	3 00
New England Magazine	3 00	3 00
St. Nicholas	3 00	3 00
North American Review	5 00	4 50
Review of Reviews	2 50	2 50
Magazine of Art	3 50	3 50
Outing	3 00	3 00
McClure's	1 00	1 25
Jenness Miller Monthly	1 00	1 00
Current Literature	3 00	3 00
American Amateur Photographer	2 00	2 00
Short Stories	2 50	2 50
Romance	1 00	1 00
Chautauquan	2 00	2 00
Babyhood	1 00	1 00
Domestic Monthly	1 00	1 00
Fanciers' Review	50	75
Frank Leslie's Budget	1 00	1 10
" Popular Monthly	3 00	3 00
" Pleasant Hours	1 00	1 10
" for Boys and Girls	1 00	1 10
Cassell's Family Magazine	1 50	1 50
Waverly Magazine	4 00	4 00
Leisure Hours	1 00	1 00
Le Bon Ton	3 50	3 80
American Teacher	1 00	1 00
Our Little Ones and the Nursery	1 50	1 40
Modern Priscilla	50	95
Munsey's	1 00	1 25
Peterson's Magazine	1 00	1 00
Arthur's Home Magazine	1 00	1 00
Overland Monthly	3 00	3 00
Practical Dairyman	50	75

IT is beginning to be believed that the hated mole is really a friend of the farmer. Examination of moles' stomachs show that they feed mostly upon worms, grubs, beetles and other enemies of the husbandman.

HAY is likely to improve in price as the season advances. Our chief competitor in the Eastern market—Canada, which was let in by the Wilson Iniquity—reports a strong shortage in hay, and the crop in New York is reported as only half last year's. The Interior will be called upon for a good deal of forage in consequence.

THE New Hampshire Grangers have demonstrated that a State fair, and consequently minor fairs, can be run without necessarily having to rely on the attractions of horse racing to make it a success. At the fair held at Tilton, N. H., last month, the Grangers erected a large tent on the grounds, filled it with comfortable seats, and provided an entertaining and varied program for morning and afternoon of every day in the week. Tuesday was "Woman's Day," and representative women from all parts of the State delivered addresses on matters of womanly interest, which were attentively listened to by audiences which filled the seats. Wednesday was "Farmer's Day," Thursday "People's Day," and so on. All that was necessary was to provide good, live speakers, who had really something to say, and who quit when they got through saying it, good music, with plenty of singing, etc. It will be done over again next year, with additions and improvements suggested by experience.

GO INTO THE SHEEP BUSINESS.

We sincerely believe that now is the best time to go into the sheep business, and every farmer who has a little money to invest, can not use it more profitably than by judicious purchases of sheep. Sheep are now lower than they will ever be again. The election of McKinley, which now seems assured, will give a great impetus to all kinds of business, and to none more than to wool. The stock of wool in the world is unusually low, owing to the unfavorable seasons in Australia, South Africa and elsewhere, and the great diminution in American flocks following the passage of the Wilson Iniquity. People have been wearing their old clothes for four years now, and must have some new ones, which they will have as soon as business revives after the election.

Another thing is that the low price of mutton has had the beneficial effect of developing a taste for that kind of meat. People forced to economize have bought mutton and learned to like it. The result is a growing market for it.

We think that an investment in a flock of sheep is better than one in railroad bonds.

ANOTHER FLAX-STRAW PROCESS.

While still hopeful, we are still a trifle weary of hearing of new processes which will cheaply and effectively convert flax straw into fine linen. For a quarter of a century now we have felt a deep interest in this boon to the farmers, and have welcomed, we do not know how many, inventions which promised to infallibly do the work. They have all proved as elusive and fallacious as the financial schemes with which the country has been deluged by men who never did or could pay their own debts, but who have always on hand a safe and sure plan by which everybody can pay a dollar without doing a dollar's worth of work to get the dollar. Recently we have had another announcement, not of a financial scheme, but of a flax-straw manufacturing process, of which great things are promised. A man has on exhibition at Boston a "McKinley Towel," which he claims is "the first linen towel ever manufactured in America by American machinery." He claims that by his process, which is secret yet, linen can be manufactured from flax straw which will be superior to the best English, and cost but half so much. We only wish that what he claims may be true. Our farmers throw away about 5,000,000 tons of flax straw annually, while we buy annually abroad from $5,000,000 worth upward of flax fiber in various forms, from simply hackled up to finished thread and cloth.

FOREIGN MARKET FOR APPLES.

The low price and excellent quality of this year's apples has developed quite an increase in the export to England, where the supply is very short. Some English dealers of standing think that we may sell 2,000,000 or 3,000,000 barrels of apples in that country this year, if the prices here do not materially advance. In the first place, the American apple is a much better apple than can be found anywhere else in the world, and in the next, there is a shortage of from 5,000,000 to 7,500,000 barrels in the English apple crop. For the year ended June 30, 1895, we sent abroad 818,711 barrels of green apples, valued at $1,954,318. Of these 770,769 barrels, valued at $1,838,346, went to the United Kingdom. Germany took but 6,112 barrels, and Cuba 6,336 barrels. The exports to any other country fell far below these figures. The largest shipments were from Boston, which exported 507,464 barrels, or nearly three-fourths the whole. San Francisco exported 16,348 barrels, of which about one-fourth went to Hawaii.

In the same year we exported 7,086,946 pounds of dried apples, valued at $461,214. New York led off strongly in this, exporting 6,445,321 pounds, or more than six-sevenths of the whole. The Netherlands were our best customers, taking 2,543,570 pounds, or about one-third the whole. Next came Germany, Great Britain, and Belgium in the order named.

FOR WINTER READING.

Do not neglect to include THE AMERICAN FARMER in making up your list of papers and magazines for Winter reading. No other paper offers you so much good reading matter for so low a price. Compare it with other papers and you will at once see this. Get your neighbors to join you in making up clubs.

THE WHEAT MARKET.

The tone of the markets for all kinds of produce is hopeful, though the prices continue low. It is pretty certain now that Europe will take all the wheat that we can spare, and this must carry the price up somewhat, but the advance cannot be very great, because there are entirely too many sources now from which the world can get wheat. In very recent times—since the close of our war—the only sources whence England and France could get wheat to make up any deficiency in their home crops were the United States and Russia. The amount that could be gotten from Russia was small and uncertain, for there were few railroads in that country to bring grain to the seaboard, and the facilities for shipping were very meager. Consequently, when the wheat crop was short in France and England we could look to a strong advance in the price of American grain. The pool was small from which buyers could dip, and the effect at once noticeable. Now, in place of the wheat market being a pool it is an ocean. Russia, Argentine, India, Australia each feed it with great rivers of grain, while Rumania, Greece, Servia, Bulgaria and scores of countries unheard of in the market a few years ago send in creeks and rivulets. The level of such an ocean may be raised or lowered somewhat, from time to time, by the flushness or lowness of some of its feeders, but there will never be again such chances as took place when it was only a pool. We shall never again see wheat above $1, for the reason that the whole world has gone to raising wheat, and railroads and steamships give the raisers everywhere ready access to the markets.

Still, we may expect wheat to go considerably higher than it is as present, and maintain itself until the next crop comes in.

Since writing the above, the wheat market has been stirred as it has not been for many months. Oct. 1 was a very lively day at Chicago. There was a sharp advance in the price of December options, which went to 70½ cents. This was a rise of 2⅝ cents in one day, and of 13 cents since Sept. 8. This was the best sustained rise since May, 1895, when it went up 20 cents in one month. The bears rallied and battered the price back to 69⅝ for a little while, but it recovered and went back to 70½, and finally closed at 69⅞.

This manifestation of strength surprised the crowd, who began to look for the causes. These were easy to find.

One New York dispatch read as follows:

English houses again accepted good deal of wheat. There is a demand here for cargoes for shipment as far ahead as February.

The stock of wheat at Liverpool was reported as being only 1,496,000 bushels, about 500,000 bushels decrease since September 1, and sufficient for only about 10 days' consumption, and a gain as compared with about 6,000,000 at the corresponding date the year before this.

Two cargoes were reported engaged at Liverpool for shipment to India, something unheard of before, and San Francisco wired confirming the reported purchase by London of wheat in California to go to Calcutta. This went a long way toward confirming the reported failure of crops in India. Rice, one of the chief edibles of that country, was reported to be worth more in Calcutta than wheat. Outside buying orders were largely for seaboard account, and the local crowd, stimulated thereby, took 20 bushels for every one bushel on orders from elsewhere.

CO-OPERATION is the secret of farming success in the future. Everything in the world is now running to large aggregations. All forms of production are most successfully carried on by combinations of one kind or another. This being almost a natural law, there is no use of rebelling or complaining. The only thing to do is to try to get in line. The farmers can do this by co-operating wherever co-operation is possible, and it is possible in many more ways than one thinks at first. Two men can do any one thing cheaper by shrewdly working together than separately, and 10 men can do it much cheaper than two. Think about this during the Winter, and devise some plan with your neighbor by which you can do your farm work cheaper, and you will have taken the first steps toward prosperity.

THE Maine State Grange will begin a series of meetings at Augusta, Monday, Dec. 15, which will continue through the week.

THERE is an abundance of apples in all parts of the country, and consequently low prices are likely to rule for this King of all Fruits. But this does not mean that any farmer should allow his apples to go to waste because there may be no profit in shipping them. Apples are not only among the very best of foods for human beings, but they are equally good for animals. They contain from 15 to 17 per cent. of nutriment in the best shape for assimilation, and besides have an agreeable acid, which greatly assists digestion and other healthful function. One of the best ways of preserving apples through the Winter is the old-fashioned pit, so dear to the memories of our childhood. The pit should be constructed in a dry, well-drained place, and the apples laid in layers upon straw. Above each layer of apples should be one of straw, the top covered with more straw, and then covered with earth to prevent freezing. A cow will eat a peck once or twice a day to advantage, a horse or a pig half as much, and the fowls will devour them greedily. Only sound ones should be fed to stock.

THE Board of Managers of the Joint Traffic Association has again authorized a lowering of the all-rail rates on corn from Chicago to the seaboard from 20 to 15 cents a bushel. This is to continue through October, and is done to meet the lower rate adopted by the Southern lines, which were taking business away from the great railroads leading directly into New York. The reduced rate will apply to corn for export only. This, it is expected, will bring out many million bushels of corn that would not be otherwise exported, and will contribute to a slight advance in the price and to holding it steadier.

FLORIDA fruit growers say that they have no fear of the West Indies or any other section permanently absorbing the orange trade. The Florida *Times-Union* says: "There is an area in south Florida that has never been hurt by frost that is double the extent of Jamaica, and can produce more oranges than the people of the United States will ever need. This section of the State is being settled, and if not subject to the frosts of northern Florida, a comparatively few years will develop a growth that will restore Florida's prominence in fine orange culture."

Pastures and Feeds Later on in the Season.

The experienced, provident sheep-raiser keeps the food supplies of the flock always in mind. He so plans and arranges that there are no failures—shortages—at any period of the year. If the season is wet there are ample supplies, and of the best quality, by reason of just enough ground devoted to the flock to sustain them well; if the season is, on the other hand, dry there are larger areas given them, and supplemental supplies given if there is any lack.

This will be cheaply done by using catch crops—crops that do not interfere with the regular rotation of crops practiced on the farm.

One point right here to start with: We do not believe that the farm should be allowed to raise weeds. As farming is done in this country we should conclude that farmers are willing that weeds should occupy all lands between crops; for instance, stubble lands are given over to foul weeds and grasses as soon as the grain is cut; cornfields are treated in exactly the same improvident, careless manner.

Why not keep the farm occupied with such crops as can be appropriated by farm animals as food? It may be said that stock will eat weeds, and it is true; but let no one persuade himself that a field of weeds will make as good milk and butter as sweet, tame grasses and luscious clovers. Let no one imagine that a flock of sheep will get as much growth, produce as much and as good mutton and fleeces in a brush-and-weeds pasture as with clean blue grass and clover supplies, for it is a mistake. Weeds are the farmer's worst enemies, while grasses and clovers are the best helps—the factors of wealth and prosperity to livestock-raisers. But between grain and grasses, in the place of weeds, the farm may furnish, at a nominal cost, food supplies, instead of weeds and hard conditions—a bountiful, reliable supply of forage to keep animals in thrifty condition.

Such plants as rape, scarlet clover, millet, sojo beans, stock-peas, sorghum, corn planted in succession, both field and sweet varieties, are all worth consideration and a trial. Oats can be sown on stubble ground immediately after harvest, and will give a heavy growth that can be used with great advantage until cold, frozen weather comes. The early sowing of wheat and rye cannot be too strongly insisted upon. These crops, judiciously pastured, as the condition of the soil will admit, are not injured by stock, but result quite to their advantage. Please keep this in mind and sow wheat and rye early, expecting to use these fields for pasture. One trial will insure the practice ever after.

The raising of roots for stock has not been, but it is to be, a feature of improved farming and a prominent factor of stock-raising in this country. Every careful experiment in this direction reveals the fact that root crops can be raised, and that farm animals will do better on less corn and more roughness where roots are used. By root crops we mean potatoes, both Irish and sweet, beets in the varieties, carrots, and parsnips, and by all means turnips. With proper attention to the conditions of the land no plant is more easily raised and no greater supply of food can be produced from a given area of ground. In the North turnips must be gathered and stored, but this need not be a hindrance or hardship, nor will be when once fully inaugurated as a stock food. They will be regarded as an important adjunct with dry artificial stock food. Other vegetables, such as cabbage, beans, peas, are valuable in connection with stock-raising. The value of pumpkins and squashes cannot be praised overmuch. As usually treated in the West these crops are regarded as only fit for Fall use. In some southerly climes these are easily protected from frost, and may be in the North, and used in the coldest Winter weather with great benefit. The writer has fed squashes to milk cows throughout the entire Winter and Spring until grass came. They were kept in a cellar cool enough for apples.

These reflections are appropriate at this especially unfavorable season for general farm crops. The lateness and extreme wetness suggest the probability that the season later along should be the reverse of what has been, and equally unfavorable for farm crops.

THE AMERICAN FARMER is in favor of diversified agriculture and diversified crops and varied resources. Corn, wheat, oats, and grass—the main farm crops of the farmers—are required to do everything in the way of maintaining the prosperity of the farmers. If these fail, there are no reserves to fall back on. The farm stock has to be disposed of, and it is said the year was a bad one for farmers. We insist upon using every possible expedient in securing resources outside of and beyond the ordinary food supplies; of growing crops within crops. We believe in intensive farming, intensive stock-raising, which may secure and maintain more secure prosperity.

A Plea for the Boys.

THE AMERICAN FARMER, while advocating the cutting of weeds, asks a favor of all fathers who have boys. Do not put the boys to cutting fence-corners without some encouragement. It is fresh in our memory yet that, when a lad, such a task, a hopeless task, was laid upon us, the sun came down the near way, there was no air in circulation, the smell of weeds, the terror of snakes and the certainty of wasps and yellow-jackets made our punishment complete. We use the word punishment because there was no hope of reward, or of an ending, for that matter. If it is necessary (and it does not hurt a boy a bit) to put the boys to this sort of work, infuse some sort of enthusiasm into the work, and in no case disgust them.

We plead equity for the boys, and they know what justice is as well as anybody in the world. Many a boy has gotten his first distaste of farm life by such tasks as mowing fence-corners alongside of a field of corn on a hot Summer day.

The Tassel of Corn.

The flower of the corn plant is divided into two portions—the tassel or male section, which furnishes the pollen, and the silk, which is the female portion of the flower, which receives it. Each thread of silk carries some of the pollen to the ear, and there a grain of corn is formed. The profusion of silk is so great that the grains of corn are compacted on the ear as closely as possible. When this is not the fact it is more likely due to the drying up of the tassel, so that not enough pollen is formed to fertilize all the silk. If there is either a very dry or very wet time when the tassel should be distributing pollen, these defective ears will be plenty. Heavy rains in one case wash the pollen off, and the dry weather causes the tassel to shrivel and become worthless. The blossoming is exhaustive. If the season is just right one-quarter of the tassels produced would make a full crop of well-developed ears. But as in every crop there are more or less defective ears, it is unsafe to cut them out. The suckers usually tassel later, and for this reason they often increase the corn crop on the main stalk after the earlier tassels have dried up.

PERSONAL.

Otis Burlingame, living near La Porte, Ind., marketed eight quarts of nice strawberries Sept. 3. They were picked from vines that bore a good crop in the regular season last Spring, and this second crop is as good as the first. Home-grown fresh strawberries in September were considered a great curiosity.

Robert Chilton, who lives about eight miles from Warrenton, Va., was struck and instantly killed by lightning Sept. 18, while feeding stock on his farm, near the Fauquier White Sulphur Springs. He leaves a wife and two children.

Senator Cockrell has the reputation of eating more apples than any other man in the upper branch of Congress. There is not a day in the year that he does not indulge in this fruit, and he buys the largest and finest apples that can be procured. He is not in the habit of taking any luncheon at the capitol in the restaurant or committee room, outside of the one, two or three apples he may conclude to be necessary to tide him over until his dinner hour arrives. In fact, he does not care for anything more substantial, such as fish, game, meat or vegetables. It is not often that a Senator will eat even a peanut in the chamber, for that would be regarded as most undignified and not in keeping with the surroundings. When Senator Cockrell gets an appetite for an apple he leaves his seat, and as he drags his tall figure through the corridor toward the Appropriations Committee room his pockets bulge out with the fruit he has concealed in them. Senator Cockrell says that apples are the healthiest fruit he knows, and he believes that but for his fondness for them he could not have half as good health as he enjoys. He is one of the most tireless workers in Congress, and seldom allows himself any time for indulging in the social pleasures of the capital.

Representative Price, of Louisiana, and Representative Patterson, of Tennessee, are the great apple eaters of the House, but Congressman Cobb, of St. Louis, pushes them closely in his fondness for the fruit.

THE MARKETS.

Produce.

NEW YORK, Sept. 29.—Beans and Peas—Beans, domestic marrow, choice, per bush, $1.27½a$1.30; do, medium and pea, 1.10; do white kidney, 1.35; do red kidney, 1.22½a1.25; do yellow eye, 1.20a1.22½; do turtle soup, 1.45a1.50; do Lima, Cal., 1.35a1.40; green peas, 1896, bags, 77½; do Scotch, bbls, 85a87½; do bags, 85.

Butter—Creamery, Western extras, per lb, 16; do, State and Pennsylvania, extras, 15½a16; do, firsts, 14a15; do, thirds to seconds, 11a13; do, June make, extra, 15½a16; do, firsts, 14a15; State dairy, half-firkin tubs, extras, 14½a15; do, Welsh tubs, extras, 14½; do, thirds to firsts, 10a12½; imitation creamery, firsts, 11; do, seconds, 9a10; Western dairy, 7½a10½; factory, June extras, 10a10½; do, seconds to firsts 8½a9½; do, fresh firsts, 9a9½; do, thirds to seconds, 7a8½.

Cheese.—State full cream, large, fancy, colored, 9½a9½; do large white, fancy, 9; do choice, 8½; do good to prime, 8½a8½; do common to fair, 7a8; do small, colored, fancy, 9a9½; do white, 9; do good to choice, 8½a8½; do common to fair, 7a8; light skims, small, colored, choice, 7½a7½; do large choice, 7; part skims, good to prime, 5a6; do common to fair, 3a4; full skims, 1½.

Eggs.—Jersey and nearby fancy, per dozen, 21a22; State and Pennsylvania, fresh gathered, average best, 18½a19; do fair to good, 17a18; Western fresh gathered, 17½a18, do fair to good, 16½a17; do poor to fair, per case, 3 00a4.00; Western refrigerator, early packed, from local and nearby refrigerators, prime, 15a15½; Western refrigerators, early packed, from Western refrigerators, prime, 15; do fair to good, 14a14½; Western dirties, choice, per 30-dozen case, 3.00a3.50; do Western, checks, per 30-dozen case, 2.10a2.70.

Apples.—Apples, as to quality, per bbl, 75a1.75; crab apples, per bbl, 50a2.00; peaches, Michigan, per bushel-basket, 1.25a1.75; do Maryland, per carrier, 1.00a2.00; do per crate, 50a1.50; do per basket, 25a1.25; plums, per basket, 20a60; prunes, per basket, 50a75; pears, Bartlett, per bbl, 3.00a4.50; do per keg, 1.50a2.00; do Seckle, per bbl, 3.50a5.50; do per keg, 1.50a2.50; do Beurre Bosc, per bbl, 2.25a3.25; do Sheldon, per bbl, 2.25a2.75; do other late kinds, 2 00a2.50; grapes, up-river, black, per case, 40a50; do white, 50a75; do Delaware, per small basket, 8a11; do Niagara, 8a10; do black, 6a7; do black, per large basket, 10a12; do Western New York Delaware, per basket, 9a12; do Niagara, 8a12; do Concord, 10a14; do Concord, per small basket, 6a8; do in bulk, for wine, black, per lb, 1a1 1-2; do white, 1 1-2a2; cranberries, Cape Cod, per bbl, 3.00a4.75; do per crate, 1.25a1.50; do Jersey, per crate, 1.12a1.25.

Dried.—Apples, fancy, 1896, 5½; do prime to choice, 4a5½; do common to fair, 3a3½; do 1895, 2a4½; do sun-dried, North Carolina sliced, 2 1-2a3 1-2; chops, 1 1-2a1½; cores and skins, 1a1½; peaches, Southern, peeled, 6a8; raspberries, evaporated, 14; do sun-dried, 12 1-2; cherries, 9a9 1-2; huckleberries, 7a7 1-2; blackberries, 3 3-4a4; apricots, Royal, 7 1-2a10; do Moorparks, 11 1-2a12 1-2; peaches, California, unpeeled, 5a 8 1-2.

Hops.—State, 1896, choice, 9 1-2a10; do medium to prime, 7a9; do 1895, choice, 7 1-2; do common to prime, 3a6 1-2; Pacific coast, 1896, 7a10; do 1895, choice, 6 1-2; do common to prime, 3a6; State and Pacific coast, 1894, 2 1-2a4; do 1893, 2a2 1-2.

Poultry.—Live, Fowls, per lb., 10a10 1-2; chickens, per lb., 8a8 1-2; roosters, per lb., 6; turkeys, per lb., 9; ducks, Western, per pair, 60a70; do Southern, 50; geese, Western, per pair, 1.25a1.35; do Southern, 1.12a1.25; pigeons, per pair, 20a25.

Dressed.—Turkeys, prime dry-picked, young, 12a13; do scalded, prime, 11a12; do inferior, 5a10; do old, mixed weights, 12a12 1-2; chickens, Philadelphia, selected, 14a15; do common to good, 10a12; do Western dry-picked, fancy, 10; do average prime 9a9 1-2; do common, 7a8; do Western scalded, choice, large, 9a9 1-2; do fair to good, 8a8 1-2; do very poor, 5a6; fowls, Western dry-picked, 10; do scalded, choice, 9a9 1-2; do poor to fair, 6a8; old cocks, Western, 6; Spring ducks, Eastern and Long Island, 12 1-2a13; do Pennsylvania and Virginia, 9a11; do Western mixed, 8a9; do old Western, 7a8; squabs, per dozen, 1.25a2 00.

Hay and Straw.—Hay, prime, per 100 lb, 77½a80; No. 1, per 100 lb, 70a75; No. 2, per 100 lb, 60a65; No. 3, per 100 lb, 55a57 1-2; shipping, per 100 lb, 55; no grade, 40a50 per 100 lb; salt, per 100 lb, 45a50; clover, mixed, per 100 lb, 55a60; clover, per 100 lb, 50a55; long rye straw, per 100 lb, 80a90; short rye straw, per 100 lb, 55a65; do tangled, per 100 lb, 50a60; oat straw, per 100 lb, 37 1-2a40.

Vegetables.—Potatoes, Irish, per bbl. or sack, 1.00a1.25; do sweet Virginia, per bbl. 75a90; do Jersey, sweet, 1.25a2.00; cauliflower, per bbl. 1.00a3 00; cabbage, per 100, 2 00a4.00; carrots, per bbl. 75a1.00; celery, per doz. stalks, 5a50; eggplant, per bbl. 40a75; cucumbers, per 100, 75a1 00; lima beans, potato, per bag, 1.00a1.50; do flat, 50a1.00; green corn, per 100, 50a1.00; green peppers, per bbl 40a75; do red, 75a1.25; tomatoes, per crate, 55a60; turnips, Russia, per bbl. 75a80; pumpkins, per bbl. 40a60; squash, marrow, per bbl. 60a75; do Hubbard, 75a1.00; string beans, Southern per basket, 50a1.00; onions, Orange County, white, per bag, 1.00a2.00; do yellow, 50a1.00; do red, 25a1.50; do other white, per bbl. 1.25a2 25; do red, 1.25a1.75; do yellow, 1.00a1.50.

Wool.

BOSTON, Sept. 26.—The demand for wool continues to be active, with a considerable inquiry from manufacturers. Much of the trade is of a speculative character, yet manufacturers are buying more freely than in times of sales for speculation only. Values have stiffened perceptibly under the demand.

Ohio and Pennsylvania fleeces are in better request, and a stronger movement of XX is reported. Values are much stronger and are very firm at these prices. We quote in this market Ohio X, 16; Ohio XX, 17; Ohio XX and above 17a18, and No. 1, 17a18.

For Michigan wools we note a fair demand, for X principally, with still a slight call for No. 1. We quote values unchanged but very firm at 14 for X.

Combing wools show a much heavier business, both in washed and unwashed. Delaines are also being moved with more freedom. Values are somewhat stronger. We quote this week Ohio delaine, 18a19; Michigan, 17; unwashed quarter-blood combings, 14½a15; and three-eighths at 14a15; washed combings we quote at 19a20 for No. 1, and 18a19 for No. 2.

For Texas wools there is rather better demand, with values slightly stronger. We quote clean, 28 for fine and 25a27 for medium Fall wools. In Spring wools, fine, 12 months' growth, clean, 31a32; and for six to eight months' growth, 30a31; medium of year's growth is worth 28a29, and six to eight months' growth, 27a28.

A fair trade is also noted in Oregon wools, with some No. 1 selling. Values are firmer. We quote prices, clean, as follows: Eastern No. 1, 27a28; No. 2, 26a27; Valley No. 1, 27a28, and No. 2, 25a27.

A fair demand for California wools is noted, and slightly heavier sales. Values are firm but unchanged. Scoured quotations are as follows: 30a31 for northern free 12 months, and 28a30 for eight months; 30 for southern 12 months, and 25a28 for six and eight months. Fall wools are quoted at 25a26 for free and 23a25 for defective.

For pulled wools a stronger demand is noted, largely for B's, but with some improvement in A's. Values are firm but unchanged in quotations. Under the heavy demand prices have stiffened some, and it is not so easy getting desirable wool at the lower quotations. We quote on a scoured basis as follows: Fine A, 32a34; A supers, 29a30; B supers, 25a26; C supers, 22a23; fine combing, 32a33; western extra, 30a32.

Territory wools continue very active, and sales continue to foot up a large total. We quote scoured basis Montana fine, 31a33; fine medium, 30; medium, 28a30; Wyoming and Utah fine, 30a31; fine medium, 28a30; medium, 26a27.

Australian wools are firm, but yet are offered at fairly low prices. The opening of the London sales on Tuesday was not attended very heavily or with very marked competition, American buyers not competing. Prices are not so strong as was hoped for by holders of domestic wools, who were looking for support from the market abroad. Carpet wools are in fair demand and firm.

We quote the selling prices of the market for leading descriptions as follows:

	Cents.
Ohio and Pennsylvania No. 1 fleece	17a 18
Ohio and Pennsylvania X	16a 17
Ohio and Pennsylvania XX	17a17½
Ohio and Pennsylvania XX and above	17a 18
Michigan X	14 a15
Michigan No. 1	17 a18
Combing No. 1	18 a19
Combing No. 2	18 a19
Kentucky and Ind. ¼-blood combing	14 a15
Kentucky and Ind. ⅜-blood combing	14 a15
Missouri ¼-blood combing	14 a15
Missouri ⅜-blood combing	14 a15
Delaine, Ohio fine	19 a..
Delaine, Michigan fine	17 a18
Montana fine	7 a10
Montana medium	8 a12
Wyoming fine	7 a12
Wyoming medium	7 a13
Kansas and Nebraska fine	7 a 9
Kansas and Nebraska medium	7 a10
Georgia	14 a15
Texas spring medium, 12 mos	9a12½
Texas spring fine, 12 mos.	9 a11
Texas spring fine, 6 to 8 mos	8 a10
Texas spring medium, 6 to 8 mos.	8 a11
Texas fall	7 a 8
Kentucky ¼-blood clothing	14 a..
Kentucky ⅜-blood clothing	14 a..
Unwashed fine Ohio and Michigan	11 a12
Unmerchantable Ohio	13a13½
Unmerchantable Michigan	12 a13
Lambs super pulled	12 a13
Super pulled	9 a13
Extra pulled	8 a15
Western super	8 a12
California spring	9 a13
California fall	8 a10
Oregon east	8 a12
Oregon fancy	9 a11
Oregon fine valley	9 a13
Oregon medium valley	12 a14
Montevideo	13 a15
Australian, Port Philip	20 a24
" Adelaide	19 a20
New Zealand clothing	20 a24
" " cross-bred fine	22 a24
Cape	10 a17
Carpet wools, Aleppo	9 a10
" " Bagdad	13 a16
" " China	7 a13
" " Cordova	. a12½
" " Donskoi	11 a15
" " Donskoi combing	15 a17
" " East India	9 a11
" " Georgian	9 a13
" " Khorassan	10 a16
" " Valparaiso	10 a11

NEW YORK, Sept. 26.—A more general feeling of steadiness is to be found on the market, which is mainly the outcome of an improved inquiry, coupled with an improvement in outside influences. Certain evidences are in some instances thought to indicate an easier tone abroad, but this is not reflected in holdings here, as home holders of desirable parcels stand by their supplies with much display of strength, and nothing has come to light to indicate a desire to realize faster than demand naturally develops. More manufacturers have visited the market during the week than for some time past, and from inquiries coming forward would indicate that all manufacturers appear more generally interested. Mills producing cheviots and cassimeres are the largest buyers, and some good-sized parcels of wool suitable to their wants have passed into the hands of these manufacturers.

PHILADELPHIA, Sept. 26.—There has been more inquiry and a better feeling has developed during the last week. Buyers have not so closely confined purchases to the supply of actual wants, but there has been an evident tendency to anticipate future requirements. This speculative feeling is based on the idea that wool values are at the bottom, and upon the growing belief in the defeat of the free-coinage movement and the triumph of the protective principle at the November elections. In spite, however, of the financial drawback and of the continued unsatisfactory condition of the woolen-goods trade, there has been more demand for wool, and buyers have found holders much less inclined to do business at the cost of concessions. In fact, in several instances offers have been refused that would have found acceptance a fortnight ago. The offerings of fleeces are small, as much of the limited supply here is held off the market in the hope of higher prices after the November election. Supplies of territory wools are large, but there is more confidence among holders and prices are rather firmer.

Grain and Provisions.

NEW YORK, Sept. 30—Wheat—Spot strong; No. 1, Northern New York, 74, f. o. b., afloat; No. 1, hard, 75½, f. o. b., afloat. Options opened strong, and advanced during the day on unexpectedly higher cables, good English buying, rumors of drought in India, and locusts in Argentine, and a large export business, closed 1¼a1⅜ net higher. No. 2 red, May, 75½a76 13-16, closed 76½; September, 71 1-16; October closed 71½; November closed 73; December, 72½a74 1-16, closed 73⅝.

Corn—Spot quiet; No. 2, 27½, elevator; 28½, afloat. Options firmer with wheat, and a decreasing movement owing to rain. Closed ⅛ net higher. May, 31⅛a31⅝, closing 31½; October, 27½a27⅝, closing 27½; November, 28⅛a28⅜, closed 28⅛; December, 28⅛a28⅜, closed 28⅛.

Oats—Spot steady; No. 2, 21; No. 2, delivered, 22; No. 3, 19½; No. 2 white, 24½; No. 3 white, 22; track white, 19a29½. Options quiet but steady. October, 20½a20½, closed 20½; December, 22, closed 22.

CHICAGO, Sept. 29.—The following shows the range of prices:

	Open.	High.	Low.	Close.
WHEAT—				
December	67¼	67¼	66½	66½
May	70½	71	69½	69⅝
CORN—				
December	22⅝	22½	22½	22⅝
May	25½	25⅝	25⅜	25⅜
OATS—				
December	17⅛	17⅛	17½	17⅛
May	19½	19⅛	19½	19⅝
PORK—				
January	7.07	7.07	6.97	7.00
LARD—				
January	4.12	4.12	4.07	4.07
RIBS—				
January	3.50	3.52	3.47	3.47

Cotton.

NEW YORK, Sept. 30.—The cotton market opened with news scarce on account of last night's storm. The first call showed an advance of two points, cables being better than looked for, and fears prevailing as to the effects of last night's storm. Later cables were unfavorable, and our market declined 12a15 points, and closed quiet and steady, at a net loss of 10a13 points.

The following shows the range in prices:

	Op'g.	High.	Low.	Close.
October	8.14	8.20	8.09	8.09
November	8.18	8.22	8.10	8.10
December	8.31	8.34	8.21	8.21
January	8.39	8.42	8.28	8.29

BALTIMORE, Sept. 30.—Nominal: middling, 8 5-16; low middling, 7 15-16; good ordinary, 7 5-16. Net receipts, none; gross, 345; exports to Great Britain, 2,678; stock, 3,383.

Live Stock.

NEW YORK, Sept. 30.—Beeves—Steers dull and weak; rough stock firm. Native steers, 3.35a4.70; oxen, 2.00a4 00; bulls, 2.00a2.75; dry cows, 1.10a2.75. Cables quote American steers at 10½a11½; sheep, at 9½a10½; refrigerator beef at 8a9. Exports, 200 beeves and 4,260 quarters of beef.

Calves—Steady veals, 4.00a7.50; grassers, 2.50a3; Western calves, 3 50a4 50.

Sheep and Lambs—Active; sheep, 2.00a3.75; lambs, 4.00a5.25.

Hogs—Higher at 3.80a4.20.

NEW PUBLICATIONS.

MONEY, SILVER AND FINANCES. By J. Howard Coperthwait. Published by the American News Co., New York. Price 25 cents.

This is a plain, comprehensive, easily understood presentation of the whole monetary question. Indorsed by leading newspapers. It is businesslike and to the point and will be very helpfull to those who are trying to get at the facts in the great problem of finance.

Notes.

A "Sporting Number" of *Harper's Weekly* will be dated October 3, and will contain articles on hunting big and little game, camping, angling, trap-shooting, game-bird shooting, boating, bicycling, and kindred topics. The number will be profusely illustrated by Frost, Remington, Lungren, Adney, and others.

Popular Science. Published at New York monthly. Devoted to nature, invention, botany, electricity, chemistry, medicine, and hygiene. Price $1 a year.

In the number of *Harper's Bazar* issued on October 3d there will be given the first chapter of "Frances Waldeaux," a brilliant serial story from the pen of Rebecca Harding Davis. The story is original in treatment, and has for its *motif* the absorbing love of a mother for an only son. It will occupy eight consecutive numbers of the *Bazar*, and will be finely illustrated.

"Autumn fashions for men" will be fully treated in the next issue of the *Bazar*.

Apropos of Mr. Cornelius Vanderbilt's disagreement with his son, and the latter's marriage to a woman very much older than himself, the editor of *The Cosmopolitan*, in the September issue, seriously discusses the education most useful to modern life, and substantially, if not in words, asks: "Does modern college education educate?" The September *Cosmopolitan*, as if to show what a magazine can do, gives four complete stories in this single number, by noted authors.

Kohler, Hayssen & Stehn Manufacturing Company's illustrated catalog of agricultural specialties, Sheboygan, Wis.

The *Monthly Illustrator and Home and Country* has been reduced in price to five cents, without any reduction in quality, and is now wonderfully cheap for so excellent a publication.

Flower Queries. 500 questions of practical floriculture answered, and topics discussed. Published by J. W. Darrow, Chester, N. Y. Price 25 cents.

"Free Coinage Dissected." By Hon. John De Witt Warner. Published by the Present Problems Co., 57 Park Place, New York City. Price one cent.

A New Minuet by Paderewski.

Ignace Paderewski has written a new minuet for the piano, which he has dedicated to his American admirers and given the significant name of "Menuet Moderne." He regards the new composition as his best, and believes that it will meet with greater popular favor than his "Menuet a L'Antique," written in 1883, of which over 7,000,000 copies were sold in a single year. It is the first minuet written by Paderewski since "L'Antique," and was composed by the famous pianist expressly for *The Ladies' Home Journal*, and will appear in the October issue.

New Music.

"Won't You Give Your Love to Me?" By Paul J. L. Woirol. Published by the Union Mutual Music Co., 265 Sixth avenue, New York. Price 40 cents. Song and chorus.

Catalogs.

Catalog of Bulbs, Plants and Seeds for Autumn Planting. Peter Henderson & Co 35 Cortlandt street, New York.

THE GARDEN.

Pluckings.

Kale does not need that the land should be so rich as for cabbage, but still requires good fertilization to keep it growing during the Winter.

As a crop, onions are about 25 per cent. smaller than last year. The shortage is quite marked in New England. The commercial production is confined almost exclusively to New England, New York, Ohio and the head of Lake Michigan.

The currant is emerging from comparative obscurity into prominent notoriety. It is worthy of more attention and will receive it. Nothing is more easily transplanted, nothing more sure to live. If you plant a thousand cuttings without roots, and understand your business, you can make 950 of them live. How much less, then, should you lose in planting well-rooted plants? Currants leaf out early in the Spring, hence if you defer planting until late your chances are lessened.

The average yield of potatoes per acre in the United States is from 60 to 90 bushels; in the Island of Jersey—that tight little island of fine cows and superfine potatoes—the average yield of the latter is 333 bushels an acre, with instances not a few of yields of 500 or 600 bushels to the acre. Of course, the area of land is small in Jersey, for the whole island contains less than 28,000 acres, with about 16,000 acres arable, and farms are very small, many of them containing three acres or less, and the largest has about 50 acres.

Thayer's Berry Bulletin for October.

Not a weed should be left in the berry garden this Fall. Destroy noxious seed and insect eggs by burning all weeds, dead brush and vines—thus saving much labor another season.

Let the ground be clean and apply a liberal dressing of fine manure over the entire surface.

Having nursed the infant plants into vigorous growth and protected them from insect enemies and disease, do not now neglect the most important part of successful berry growing. As heretofore stated.

Winter protection is an absolute necessity for growing small fruits successfully in a Northern climate. It should be practiced in every locality where the temperature reaches zero, or below.

Even in localities where plants show no injury, and among those considered most hardy, the vitality is often affected, and the succeeding crop very much reduced.

The best Winter protection for blackberries, raspberries and grapes consists in laying them down and covering lightly with dirt.

If plants have been well mulched in Summer with green clover, clean straw, or coarse manure, as they should be, less dirt is required by using this mulching.

In laying plants down (the rows running north and south), commence at the north end, remove the dirt from the north side of the hill about four inches deep; gather the branches in close form with a wide fork, raising it toward the top of the bush and press gently to the north, at the same time placing the foot firmly on the base of the hill, and press hard toward the north.

If the ground is hard, or bushes old, a second man may use a potato fork instead of the foot, inserting same deeply, close to south side of hill, and press over slowly, bending the bush, in the root, until nearly flat on the ground. The bush is then held down with wide fork until properly covered. The top of succeeding hill should rest near the base of preceding hill, thus making a continuous covering.

This process is an important one, but is easily acquired with a little practice.

In the Spring remove the dirt carefully, with a fork, and slowly raise the bush.

With hardy varieties, and in mild Winters, sufficient protection may be had by laying down and covering the tips only. Grapes, being more flexible, are laid down without removal of dirt near the vine.

There is no more important work on the fruit farm, or garden, than Winter protection, and there is no work more generally neglected. Let it be done thoroughly, after frosts have come, and before Winter sets in.—M. A. THAYER, Sparta, Wis.

Experimental Notes on New Fruits.

Of new varieties of strawberries about to be introduced none pleases me better than "Carrie," sent here by M. T. Thompson. It resembles the Haverland, but is an improvement upon that variety in size, color and firmness, and seems equal to it in prolificacy. If this judgment is correct, it will prove to be an exceedingly valuable variety and will displace the Haverland, for this variety is too soft and rather too light in color. It has the same fault as the Haverland, of long fruit stems and the berries lie out in the row, and are liable to be trampled on by the pickers. While this is a fault, it must be acknowledged that berries of this class are easily seen and more likely to be picked clean than those having short fruit stems. The price of plants will be almost prohibitive at first, but it will pay growers to keep close watch of Carrie. The King Red Raspberry is fine, indeed; large, firm, beautiful color and prolific. It is far ahead of Loudon or Miller here.—*W. J. Green, Ohio Experimental Station, Wooster, O.*

Irrigation of a Garden.

There is no doubt that a garden may be irrigated under the ordinary conditions of culture with profit. As a rule, garden culture is several times more productive than that of the field, and if it pays to water fields, it should do so much more for gardens. It has been found in practice that one crop of strawberries paid the whole cost of a steam pump and pipes for watering a garden of 12 acres. This was in a dry Spring, however, but it shows the possibilities of it. A two horse power engine and pump will raise water enough for 10 or 12 acres, with a reservoir for accumulating water when it is not wanted. It is best to raise the water into a tank a few feet above the level of the ground, so that it may be distributed with ease in any direction through hose to the heads of the watering gutters.

Variation in Potatoes.

There is much wider difference in the quality of potatoes than most people suppose who have not dealt in this crop. It is not merely difference in size, though most of the very small potatoes are watery and immature; but so, too, are many of the larger potatoes, which cannot be distinguished by unpracticed eyes from potatoes that are well matured and filled with starch. These potatoes that have had their development arrested are not fit for seed, though they are often used for seed by those who do not know better. It is very easy when cutting potatoes for planting to know what are immature. They will be notably softer than others, and the pieces will be wetter when cut. All such potatoes should be thrown out and not be used for seed. If they are planted there will be a number of thin, spindling plants in a hill, making a great number of small potatoes, and these of inferior quality, because the vine did not have sufficient leaf to make them grow larger or to ripen them.

Another way in which potatoes are made to deteriorate is to plant too much seed. This, with some varieties, is almost inevitable. If the eyes or buds for growing are bunched on one end, it is the common practice to cut through the potato lengthwise. This divides the seed end and gives each half of the potato too much seed for a hill. If an effort is made to divide the seed end, so as to allow each piece two or three eyes, the pieces will be so small that, unless the soil is made very rich, the early growth of the potato will be checked. A better way is to cut off the seed end altogether, and not plant it, cutting up the remainder of the potato into pieces, each containing at least two good eyes, with enough of the tuber attached to sustain the first growth of the plant until the potato roots get hold of the soil.

It is possible while the potatoes are being dug to mark those hills that have had large, thrifty stalks, and are filled with well-grown, smooth and matured potatoes. This is the practice of the most successful potato growers. The potatoes thus selected should be kept in pits rather than in the cellar, and should not be disturbed until Spring. If kept in contact with earth and covered by it, these potatoes will be firm and hard up to near the time of planting. Potato seed thus prepared will make a strong growth and produce a crop of potatoes that will be mostly of marketable size and of good quality. There is no reason why varieties of potatoes should run out. Most that do so have been injured by lack of care during the growing season, or were originally imperfect from being produced from immature or excessively small seed.

Digging and Storing Potatoes.

The digging and storing of potatoes by the average farmer, says the Indiana *Farmer*, is generally done in a very careless manner. The essential point is to retain the flavor until used, and to do this they should never be left exposed to the sun or air. Early varieties should be dug as soon as tops are dead, or when the skin ceases to slip from the potato. If early varieties are left in the ground they will sprout, and thus destroy the flavor. Late varieties may be left in the ground until danger of freezing. As soon as dug they should be immediately stored in a dark, cool, and somewhat moist, cellar. And right here is where some may differ with me, as some recommend a dry place in which to store. If stored in a dry place they will wilt and become strong. I have noticed potatoes that remained in the ground over Winter, that did not freeze, that were as fresh and well flavored as when first matured. If stored in a dry cellar they should be covered with moist sawdust, to keep them fresh and exclude the air. Pitting is a most excellent way; simply piling them on well drained ground and putting on a layer of straw and enough dirt to keep from freezing. Care should be taken to uncover as soon as danger from freezing is past in the Spring, and keep sprouts removed. As to manner of digging, if five acres or more are to be dug it would probably pay to use a potato digger, but if less than that amount, the work can be done with a four-tined fork garden spade, or plowed with common breaking plow.

Barn Cisterns.

It is bad for stock to depend on water drawn from wells near barnyards, as it is sure after a term of years to become contaminated. In all such cases a barn cistern with a filter at the outlet through which the water is drawn offers better security of pure water than can be had from water taken from a well. Some care must be taken to prevent dust and dirt being washed into the cistern from roofs. After thrashing especially, and in the Fall when leaves are flying, the eave trough should be frequently cleaned so that as little dirt as possible be washed into a well. An average barn roof will in a year catch water enough to Winter the stock that will usually be fed in the barn.

Preparation of Seed for Wheat.

The seed wheat should always be steeped in the copper sulphate solution, which is made by dissolving four ounces of the sulphate in five gallons of water, and steeping the seed in this for 10 minutes. Or the seed may be put into a basket over a barrel, and this solution slowly poured on it, the liquid draining into the barrel. The seed is then spread to dry, and a few handfuls of dry air-slacked lime are scattered over it and well mixed with a shovel. The effect of the lime is to prevent the germ of the seed being killed by the causticity of the sulphate. It is, in fact, precisely the Bordeaux mixture which is used for spraying on plants to kill the rust or smut germs on the leaves. When the standard Bordeaux mixture is kept, it may be used for preparing the wheat for seed. It is also desirable to throw the seed into salt and water, that the light grains may rise to the top and be skimmed off before the copper solution is used. Light seeds will make weak plants and poor grain.

Effect of Manure on Worn-out Soil.

Not even a large application of manure on poor, worn-out land will bring a full crop the first year. Manure is food for plants, doubtless, but it is to be digested in the soil before it can be made available for the crop. When this very costly experiment—for it is an experiment, and by no means a sure thing—is tried, time is to be given for the manure to decompose and intermingle with the soil so as to have its needed results on the soil by making the mineral elements of it available. An exhausted soil is not only deprived of those elements of plant food which are contributed by the manure, but of those which are supplied by the soil itself, and for this reason it is that time for the soil and the manure to act together is to be given. This makes it a reasonable necessity that for the improvement of poor land the Summer fallow is advisable, in which several plowings are given, and the manure applied is intimately mixed with the soil and given time to exert its good effect upon it.

Cranberries.

Reports from South Jersey say that the cranberry crop will be below the average. In a number of places in Atlantic County the late heavy frosts in May last did much damage to bogs where the vines were in blossom. The reports from all the bog owners in the County are that a very small crop will be harvested. The cultivation of the cranberry is extensive in Atlantic County. It is a profitable business, and each year many hundreds of acres of will land adapted to the cultivation of the cranberry is cleared and set out in native vines. These spread rapidly and yield abundantly. But few foreign vines are set out in making new bogs. The foreign berry is of much darker color than the native berry, but spoils quicker and does not sell so readily.

Irrigation for Grass.

Grass thrives immensely under irrigation, but it is not the water alone that causes the growth; it is that the water holds plant foods in solution, and the more water the grass can get the more solid food it takes in with it. Strictly-pure water is not useful for irrigation, but river water, in which there is always a large quantity of plant food, is. Thus streams supply better water for this purpose than wells. Grass lands should be irrigated in times of floods, when the water carries a very large quantity of the soluble parts of the soil over which it has washed.

The Field.

Where there are stumps and stones on the land, have them got out and don't keep plowing round them year after year. They only provide growing places for weeds and shelter insect pests and spores of fungoid diseases. The stones should be hauled off to repair the roads.

Save your fodder. The farmer, it has been said, is the only producer who wilfully waste, 54 per cent. of his product. The stalk and leaves of the corn plant contain more food than the ear. Save every pound of your fodder, and sell your hay.

A dispatch from Canada gives the Manitoba wheat crop at 15,000,000 bushels, against 35,000,000 last year.

Kelley of St. Louis makes the corn crop 2,171,000,000 bushels, Dunkley 2,106,000,000, Ferren 2,102,000,000. Kelley makes the wheat crop 405,000,000, Dunkley 402,000,000, Ferren 401,000,000 bushels. The *Chicago Tribune* makes the wheat crop 403,000,000 to 405,000,000 bushels, *Record* makes it 401,000,000, *Chronicle* 402,000,000, *Times-Herald* 406,000,000, *Inter-Ocean* 405,000,000.

London Times says the large arrivals of American wheat and flour are due chiefly to the failure of supplies from Australia.

104 BUSHELS TO THE ACRE.

A Kansas Farmer Tells How He Managed to Raise that Much Corn.

Mr. J. A. Baxter, of Shawnee County, Kan., who raised as high as 104 bushels of shelled corn per acre in 1895, furnishes the State Board of Agriculture the following account of it, together with some of his corn-raising methods in general:

"The portion of my crop giving a yield of 104 bushels of husked, well-dried (56 pounds, shelled) corn per acre was five acres of 57 I planted last year. My land is slightly-rolling prairie and about a fair average of Kansas soil, with a hard, impervious subsoil. The five acres mentioned were at one end of a 25-acre field, part of which had been in potatoes for two years and the last crop dug with a listing plow late in October, which was about equivalent to a deep Fall plowing.

"In Spring the ground was much like a bed of ashes. It was then deeply plowed, made fine and smooth with a plank drag and drilled the first week in May with a Farmer's Friend planter of medium width, with a deep-grained yellow dent corn. About the same quantity of seed was used as would have been if from three to somewhat less than four grains had been placed in hills the ordinary distance apart. This was cultivated four times with common gang cultivators and hoed three times—the last hoeing after it had been finished with the cultivators.

"I am a strong believer in deep and thorough cultivation, and long since learned that a good crop of corn and a rank growth of cocklebur, crab grass, and similar weeds cannot occupy the same ground at the same time. I have not subsoiled for previous crops, but last Fall invested in a Perine subsoiler and used it on 15 acres. I intend planting 100 acres in corn this season, and aim to have it all subsoiled. I am subsoiling my fields the narrow way first (they are from 40 to 80 rods wide and 120 rods long), as deeply as four horses can do the work at distances of two-and-a-half feet. I will then throw up the ridges crosswise of this with a listing plow, following it in each furrow with the subsoiler as deep as three horses can pull it, and drill the seed immediately in the track of the subsoiler. This will leave the land subsoiled in both directions.

"My whole crop for 1895 averaged only 57 bushels per acre, yet would have made 75 bushels but for an unfortunate invasion just at the critical time by an army of chinch bugs from an adjacent 30-acre field of oats. With proper treatment of our soils and thorough cultivation, I am of the opinion that in all favorable seasons such as last we should raise from 75 to 100 bushels of corn per acre, instead of the more common 25 to 50 bushels. I am always careful to avoid cultivating when the land is very wet, and think many farmers make a serious mistake by working their corn when the soil cleaves from the shovels in chunks. The sun is likely to then bake the ground, and the growth loses its bright, healthy green, and turns a sickly yellow."

What to do With Rhubarb.

The old roots of rhubarb may be taken up now and divided and replanted in new ground with plenty of old manure. Each root may make three or four cuttings, which the second year will make good plants. Some of the roots may be put into a cellar and planted in half barrels, in rich soil, with plenty of manure, and by and by they will grow and make shoots that may be used through the Winter. Frequent waterings with warm—not hot—water encourages the new growth. A few old roots should be left to bear the next season until the divided roots will have made sufficient growth for safe cutting the second year.

The Wild Onion.

Experiments have been conducted by the Tennessee Experiment Station in combating this pernicious weed by plowing it under, by frequent cultivation, mowing, cropping, and shaving the soil. The methods tried, except the last, were not very successful, and this will be given further trial. This method consists of shaving the surface of the soil as often as the green tops present themselves. As a result of one year's work, the Director estimates that only about 10 per cent. of the original bulbs in the plat have retained their vitality.

Top-dressing Wheat.

If there has not been manure enough to cover a whole field, the part unmanured may be top-dressed later on in the Winter with benefit. But it will be very desirable to give the unmanured part of the field 100 pounds per acre of mixed fertilizer specially prepared for this use. Or if air-slacked lime can be procured, it would be a benefit to dust 20 bushels of it over each acre. It is always desirable to use at least this quantity of lime whenever the land is sown with Fall grain and is to be seeded with grass or clover, or both together, in the Spring.

Keeping Potatoes Through the Winter.

A good way to keep potatoes is to put them in pits dug in the earth in a dry place, and made deep enough to be safe from frost. Not more than 20 bushels should be put into one pit, lest heating for want of ventilation might occur. The potatoes should be heaped in conical form and covered with clean straw a foot deep and arranged lengthwise from top to bottom to shed rain. This is covered with earth when the cold weather arrives, except at the top, which is left exposed to admit of ventilation. It is best not to make the pits larger than to hold one wagonload readily, so that the potatoes may be removed most conveniently when needed.

Value of Swamp Muck as a Fertilizer.

Swamp muck consists of decayed vegetable matter that naturally provides all the elements needed for the growth of new plants, so that it is one of the most valuable of all manures when rightly prepared for use. This is by digging it in the latter part of the year, when it is the driest, and exposing it to the air for some weeks to get rid of most of the water, and then use it during the Winter as litter in the stables and yards, as an absorbent; or to make composts of it for use next season. Each ton of it then is worth as much as manure, so that, counting the available plant food in it at the same value as if it were sold in fertilizers, it would be worth at least two to three dollars a ton, which makes a bed of swamp muck worth as much as several thousand dollars an acre, which is the fact, if it is only used in the right way and the value in it got out of it by the skillful work of a good farmer.

NATIONAL IRRIGATION CONGRESS.

Fifth Annual Session of the Society to be Held in Phoenix.

The fifth annual session of the National Irrigation Congress will be held in Phoenix, Ariz., Dec. 15, 16 and 17. The National Executive Committee and the people of Phoenix have united in an endeavor to make the meeting memorable in the history of irrigation and the movement looking to the reclamation of the vast areas suitable for agriculture in the Western States and Territories, and those interested are most cordially invited to attend.

The National Irrigation Congress has already done much, not only for the people of the arid and semi-arid West, but for all the American people, by bringing before them the most approved and economical methods of applying water to soils; much also has been done by this body in the way of recommending useful and needed legislation, both State and National, in the interest of the settlement of lands once supposed to be barren and unworthy of cultivation, but which under artificial watering prove to be among the most productive on the earth. As the delegates are annually appointed by the Governors, Chambers of Commerce, Universities, Agricultural Associations and Canal Companies, they come fresh from the people, full of new ideas, and as the Executive Committee have limited the time of addresses to 15 minutes, this session will be live, snappy and up to date. The program has been prepared with great care and upon it will be found the names of some of the most eminent men in the United States.

Phoenix, which will have the honor of entertaining the Congress, is a city of about 12,000 inhabitants, and has all the improvements of an Eastern city of twice the size. It is located in the midst of the Salt River Valley. This valley consists of about 600,000 acres of land, inferior to none, when water is applied. Lemons, oranges, apricots, peaches, plums, nectarines, almonds and all small fruits may be successfully grown.

The Local Committee has arranged free transportation for side trips after the conclusion of the Congress to Tempe, a thriving business town of 1,500 inhabitants, on the banks of the Salt River at the junction of the M. & P. and the M. P. and S. R. V. Railways; to Mesa City, a splendid settlement, originally located and beautified by the Mormons, in an unexcelled fruit belt; to the large fruit farms adjacent to the town of Peoria and Glendale; to the ostrich farm, Indian school, and many other points of interest.

The railroads have named a rate not to exceed one fare for the round trip from Chicago and all points West.

Further information may be had by addressing Walter Talbot, President of the Local Committee, or James McMillan, Secretary, Phoenix, Ariz.

Missouri Horticultural Society.

The 39th annual meeting of the Missouri State Horticultural Society will be held at Marceline, Mo., Dec. 8, 9 and 10, 1896. We should begin now to save specimens for exhibition and to prepare papers, questions and plans for the meeting.—*L. A. Goodman, Secretary.*

Nebraska School of Agriculture.

The Nebraska Short Course School of Agriculture will open Dec. 29, and close March 10. There are two courses of study offered, one of one term, the other three terms. The requirements for admission are slight and tuition is free. Full particulars can be had by addressing Prof. T. L. Lyon, State University, Lincoln, Neb.

Pennsylvania Board of Agriculture.

The next meeting of the Pennsylvania State Board of Agriculture will be held at Ambler, Oct. 7, 8, 1896. Programs and more definite information will be sent by Thos. J. Edge, Secretary, Harrisburg, Pa.

This Sweet Little Woman o' Mine.

She ain't any bit of an angel—
This sweet little woman o' mine;
She's jest a plain woman,
An' purty much human—
This sweet little woman o' mine.

For what would I do with a angel
When I looked for the fire-light's shine?
When six little sinners
Air wantin' their dinners?
No! Give me this woman o' mine!

I've hearn lots o' women called "angels,"
An' lots o' 'em thought it wuz fine;
But give 'em the feathers,
An' me, in all weathers,
This sweet little woman o' mine!

I jest ain't got nuthin' ag'in 'em—
These angels—they're good in their line;
But they're sorter above me!
Thank God that she'll love me—
This dear little woman o' mine.
—*F. L. Stanton, Chicago Times-Herald.*

Nay, ask no vow, dear heart! Too lightly slips
The word "forever" from our careless lips.
The pledge eternity—who in one day,
Forgotten, silenced, mingle clay with clay!

How do you know your eyes will always shine
With that glad welcome when they meet with mine?
How dare I say this heart for aye will swell
To answer yours—knowing its frailty well?

To-day sees plighted troth and clasping hands;
To-morrow, shattered faith and broken bands.
Oh, pitiful for mortal lips to swear!

More fitting this: unceasing fervent prayer
That our love's flower, escaping frost and blight,
May bloom immortal, as we hope to-night!
—*Catharine Young Glen.*

ABOUT WOMEN.

IT IS SAID THAT THERE ARE 80,000 or 90,000 barmaids in England, and that they are very contented with their lot.

* * *

THESE ARE THE DAYS WHEN the asters, nasturtiums and dahlias are all a-bloom in the garden, and when the sweet, cold breezes bring fresh roses to the cheek of the housewife and revives dear old memories, so that she puts a bright aster in her hair and shyly pins one to her good man's coat.

* * *

THE FRENCH COURTS, SO "They" say, have decided that an unmarried woman is not an old maid unless she be 30 or more. The decision was apropos of the trouble a certain Home for Old Maids had in supplying accommodations for the women who applied to enter. There had to be some limit, and 30 years was deemed the proper one. In this country, not so very long ago, an unmarried woman of 25 was an "old maid," but the college girls have changed all that.

* * *

GIRLS WHO GO BICYCLING should remember, first, that a long skirt makes riding dangerous; then, when they don a short skirt they should remember that their heels and ankles will be on view, and that run-down or muddy heels, slouchy gaiters—dusty, ill-fitting, or minus a button—will betray her to the whole world as a careless girl. It's very surprising to have these defects show—we women are so used to having them hidden by our long skirts.

* * *

AND ALL ALONG THE ROADsides shines the golden rod and the purple "Michelmas daisies," as the English call our asters. Our roadsides are so beautiful these bright days—with the scarlet and orange leaves of the maples, the willow leaves all yellow and continually fluttering down, the glowing sumach and the brambles throwing crimson ribbons over rocks and fences. The man or woman who misses the color beauty in trees and skies in Autumn, is unfortunate indeed. The world is beautiful, though there be many who never realize it.

QUEENSWARE.

How the Pottery That We Use Got That Name.

Everybody knows what queensware is, but many would be puzzled to tell how it came to bear that name. The famous potter, Josiah Wedgwood, was born at Burslem, England, in 1730. He was descended from a family identified for generations with the ceramic art, and from the time he was nine years old he worked at the potter's wheel; but at the age of 16 he became lame from a severe attack of illness, and his lameness unfitted him to a great extent for the manual operations of his profession.

He seems to have been a lad of much perseverance, and he at once turned his attention to the artistic development of pottery making. After years of labor he had sufficient capital to engage in business for himself, and in 1752 began manufacturing the ordinary cheap ware then in demand. However, he soon made it more than the ordinary ware, for by his careful superintendence and skill it was finished in an artistic manner hitherto unknown.

Wedgwood kept everlastingly experimenting upon the fictile material then in use, and in 1761 he perfected a fine and beautiful cream-colored ware. Specimens of this ware were presented to the new Queen, Charlotte of Mecklenburg, who was so much pleased with it that she gave Wedgwood the title of "Queen's potter," and also permission to give the name "queensware" to his new art product.

To Wedgwood's skill we are also indebted for the beautiful ware that bears his name—"Wedgwood ware." This includes a variety of very fine stoneware, usually unglazed. Wedgwood's copy of the Portland Vase is one of the most celebrated specimens of Wedgwood ware.—*Philadelphia Times.*

FADS AND FANCIES.

Braiding for smooth cloth dresses is very stylish this Autumn.

* * *

Scotch plaids in both wool and silk will be fashionable for blouse waists. A Scotch plaid with much dark blue in it looks particularly pretty with a dark-blue serge skirt, with collar and belt of dark-blue velvet. A plaid in which dark-green predominates looks best with a green skirt, belt and collar. A brown-and-white check is pretty with a brown skirt.

* * *

Long-wristed sleeves with points or frills falling way over the knuckles are as much liked as ever for picturesque house gowns.

* * *

Now that the bolero jackets are in style again, slim ladies will rejoice. The short little jackets are particularly becoming to them when worn over a full-fronted dress with a wide folded belt. The gown pictured, of green cloth or cassimere, has a bolero of black lace with three big lace ruffles over each sleeve. The sleeves are long wristed and finished with a deep frill of black lace. The collar and belt are of black satin or velvet, whichever may be most becoming. A gray frock or bright red one made up in this fashion with black lace, chiffon or net, is pretty, and the demurest of gray gowns may be of gray cassimere, made with jacket and ruffles of gray silk and the collar and belt of gray velvet or silk. A black lace jacket with red crepe or silk has a Spanish effect very becoming to a bright-eyed brunet.

* * *

A loose-fronted reefer jacket is shown. It is of dark-brown cloth, with velvet collar and big brown bone buttons. The seams and edges are stitched neatly, and the jacket boasts three pockets, one little pocket up high on the left side, and the other two in the ordinary pocket-places.

* * *

The English walking hat is now as inevitable for common use in Winter as the sailor is for everyday Summer wear. One can buy one of these hats—a coarse, clumsy one—for 25 cents, or one of the finest felt, with the most graceful of brims, for $4, $6, or $8, and between the two there be many pretty and many ugly ones.

* * *

Serges and broadcloth and cassimeres are, as ever, beautiful, reliable stand-bys for the woman who loves pretty clothes.

* * *

Some of the new camel's-hair dress goods are as soft and furry as a kitten, and almost require a comb and brush to keep them in order.

* * *

Noisy, rustling silk petticoats are no longer fashionable. Last Winter my lady, for her best petticoat, bought "extra-rustle" taffeta, a material that largely added to the din of cities, being almost as noisy as a coal-cart. Nowadays she buys the taffeta that has the softest frou-frou.

* * *

Heavy lace is as fashionable a trimming as ever. In fact, good lace is always stylish. Flimsy lace always betrays its cheapness. It is more economical to buy a quantity of fine "standard" lace (if one may use that adjective), and then to keep it carefully and use it year after year, than to buy cheap laces, which are so perishable. Some women keep laces for a lifetime, if their daughters do not tease them all away; other women have no reverence for fine laces, but use them roughly, cut into them recklessly, and ruin them in a few months. A true gentlewoman loves and cherishes flowers, lace, and china.

HERE AND THERE.

Now that Winter's long evenings are near at hand, it would be an excellent idea to consider starting a course of reading—it may be just for the home folks—there be many books that will interest father, mother, son and daughter; or one can have a club of young folks, or of the dames of a neighborhood—the squires usually are not given to book clubs. The reading may be heavy or light, or "medium," modern or classical; fiction, history, art, travel, or adventure, as one chooses. Magazine clubs are pleasant, profitable and easily managed. Usually they are arranged so that the members can get all of the magazines for the price of one, though they are put to the trouble of carrying a magazine every week to a fellow-member and they have the different magazines scattered through the month instead of having them all the first week. One can read up concerning some historical epoch—the French Revolution, for instance. "Les Miserables," by Victor Hugo, and "Tale of Two Cities," by Dickens, are magnificent books, and one can obtain much profitable knowledge of that time from those two stories. If he would go in more deeply, there is Carlyle's wonderful essay. It is an excellent idea to devote oneself for awhile to American writers; they are well worth attention. The study of American history, too, commends itself to the wise man, and various epochs in English history make intensely interesting topics for a course of reading. Or there are writers of the day, to be considered. If one would keep right up to date, he must go through much trash. I believe it was Emerson who always waited until a book was a year old, before reading it. He let time do some energetic weeding for him. There are many books that make a big noise for a few weeks and then are silent forever. Their sensationalism is their only hold on men's interest. So the books of the moment are not always profitable, but there is a host of fine writers, men and women, supplying us with stories, poems, histories and essays.

We will be glad to give any suggestions or help that we can to any one who wishes to plan Winter reading, and will answer any questions sent to us.

* * *

SCRUBBING BY MACHINERY.

Somebody has invented a machine to scrub the floors of houses. As described in *The Industrial World*, this machine is something like a lawn mower and runs on four wheels. Above the two front wheels is a tank which contains clean water that may of course be heated if necessary. The water is supplied to rotary brushes at the bottom of the machine, and these, revolving in an opposite direction to the motion of the machine itself, scrub the floor. The dirt and water are carried into another tank over the two back wheels.

The wiping apparatus consists of an endless band of absorbent material made especially for the purpose. This band is pressed on the floor by rotary brushes so that the cloth accommodates itself to the inequalities of the floor. The cloth is rinsed and squeezed out automatically as it leaves the floor and passes through the tank at the back. It is not necessary to sweep the floor before scrubbing.

HOME TABLE.

A RECIPE FOR APPLE BUTTER.

In making apple butter there are several important points to remember: one, to boil and boil and boil it; two, to have as little water in it as possible—a very little water will be needed to boil the apples soft in; as soon as they begin to cook well, they will be very juicy; three, to have a quart of good, thick, boiled cider for about a gallon of apple butter; four, to sugar and spice the butter late in the day—not more than a half hour before it is done; and, five, to put a teaspoonful or so of salt in also. The sugar becomes a little bitter and the spices become heavy and lifeless if cooked long; but, notwithstanding, many thoughtless housekeepers dump spices, sugar, apples and cider all in together and let them boil and bubble into a bitter, heavy-flavored butter. The salt keeps the flavor from being flat—and, by the way, a pinch of salt improves the apple sauce. In making apple butter, the best results are obtained by using both sweet and sour apples, and for spices, cinnamon, cloves and mace—only a little of the last—are best.

* * *

Cider apple sauce is very nice. The apples are stewed soft in the cider, spiced, salted a bit and served with bread and butter.

JELLY MAKING.

Did any of the farmers' wives who read this paper ever try making jellies without boiling? If not, it is worth your while to try it, the jelly is so much nicer. I will give the directions for the way I make it:

Take a quart of ripe, juicy berries or grapes, or even apples, and put them in a double boiler or something they can be cooked very slowly in. After they are thoroughly cooked squeeze the juice out. For every cupful of juice add a heaping teacupful of dry granulated sugar, and stir till it is well dissolved, pour in the jelly glasses, and in about a week it will be the nicest-flavored jelly imaginable. Cooking after the sugar is put in is what makes jelly taste strong, and when there is no water put in the fruit when cooked, there is no use of cooking it.—MANNETTA.

* * *

Delicious rice croquets can be made of boiled rice, into which has been beaten one egg for about a cupful and a half of the cooked rice; salt to taste. Mold the rice into flat little cakes, like potato cakes, and fry them in butter or drippings. The egg should make the rice just soft enough to mold well; if it should not, a little milk or another egg may be added.

* * *

There seems to be no reliable recipes for either angel's food cake nor for lemon pie. Every woman thinks she succeeds with her own rules, and grumbles over any other, and the result, to an unprejudiced observer, is very unhappy, for there are few good lemon pies and few good angel's food cakes made. A heavy-handed, indifferent woman can never make either successfully. Lightness and delicacy of flavor are absolutely necessary, and are only the result of a careful, discriminate measuring and mixing of the necessary compounds.

A recipe is here given that may or may not be good:

ANGEL'S FOOD.

The secret in making angel's food lies in the baking of it. Sift one cup of flour and one teaspoonful of cream of tartar several times through a fine sieve. Beat the whites of nine eggs to a stiff froth and to them add one cup and a half of sifted granulated sugar; mix carefully into this, stirring constantly, the sifted flour, and add one teaspoonful of extract of vanilla. Pour this batter into an ungreased pan and bake in a slow oven for 45 minutes. When baked, turn the pan upside down on something that will admit of the air passing under it, and allow it to stand until the cake falls from the tin. Ice with white icing. Be careful, in making this cake, to have all the ingredients as light as possible.

* * *

APPLE CUP.

Mrs. Rohrer's recipe for this dessert is: Put half a pint of milk in a saucepan over the fire. Moisten three tablespoonfuls of flour with a little cold milk. Stir it into the hot milk, and stir until smooth and thick. Take from the fire, then add the yolks of four eggs. Beat the whites of the eggs to a stiff froth and stir them in. Have sound apples pared and chopped fine; mix them in the batter. Fill into greased custard-cups, stand in a pan of boiling water, and bake in a moderate oven about 15 or 20 minutes. Take out and serve with hard or foamy sauce.

* * *

Several thicknesses of cheesecloth are said to be better for straining jelly than the old-fashioned flannel bags. Cheesecloth is delightfully easy to keep clean, too.

Stitches.

[Contributions solicited from all readers.—ED.]

WIDE ROSE LEAF LACE.

Cast on 42 stiches, knit across once plain.

1st Row—sl 1, k 1, t o twice, p 2 tog, t o and n, t o, k 1, t o, n, p 1, n, p 1, n, p 1, n, p 1, n, t o, n, t o, k 1, t o, n, p 1, n, t o, k 1, t o, k 2, t o, n, t o, k 1, t o, n, p 1, n, t o, k 1, t o, k 2, t o twice, p 2 tog.

2d Row—t o, p 2 tog, t o, n, p 4, k 1, p 4, k 2, t o, n, p 4, k 1, p 7, k 1, p 1, k 1, p 1, k 1, p 4, k 2, t o twice, p 2 tog, k 2.

3d Row—sl 1, k 1, t o twice, p 2 tog, t o, n, t o, k 3, t o, sl 1, n and b, p 1, sl 1, n and b, t o, n, t o, k 3, t o, sl 1, n and b, t o, k 3, t o, k 2, t o, n, t o, k 3, t o, sl 1, n and b, t o, k 3, t o, k 2, t o twice, p 2 tog.

4th Row—t o, p 2 tog, t o, n, p 11, k 2, t o, n, p 14, k 1, p 6, k 2, t o twice, p 2 tog, k 2.

5th Row—sl 1, k 1, t o twice, p 2 tog, t o, n, t o, k 5, t o, sl 1, n and b, t o, n, t o, k 5, t o twice, p 1, t o, k 5, t o, k 2, t o, n, t o, k 5, t o twice, p 1, t o, k 5, t o, k 2, t o twice, p 2 tog.

6th Row—t o, p 2 tog, t o, n, p 7, k 1, p 7, k 2, t o, n, p 7, k 1, p 17, k 2, t o twice, p 2 tog, k 2.

7th Row—sl 1, k 1, t o twice, p 2 tog, t o, n, t o, k 1, n, p 1, n, k 1, t o, sl 1, n and b, t o, k 1, n, p 1, n, k 1, p 1, k 1, n, p 1, n, k 1, t o, k 2, t o, n, t o, k 1, n, p 1, n, k 1, p 1, k 1, n, p 1, n, k 1, t o twice, p 2 tog.

8th Row—t o, p 2 tog, t o, n. Turn the work, sl the last stich you knit, k 1, t o twice, p 2 tog. Turn the work back and commence again as follows: t o, p 2 tog, t o, n, k 1, p 2, k 1, p 2, k 1, p 2, k 1, p 3, k 2, t o, n, p 3, k 1, p 2, k 1, p 2, k 1, p 7, k 1, p 3, k 2, t o twice, p 2 tog, k 2.

9th Row—sl 1, k 1, t o, twice, p 2 tog, t o, n, t o, k 1, t o, n, p 1, n, t o, k 1, t o, n, t o, n, p 1, n, p 1, n, p 1, n, t o, k 1, t o, k 2, t o, n, t o, k 1, t o, n, p 1, n, t o, k 1, t o, k 2, t o twice, p 2 tog.

10th Row—t o, p 2 tog, t o, n, k 1, p 1, k 1, p 1, k 1, p 1, k 1, p 4, k 2, t o, n, p 4, k 1, p 1, k 1, p 1, k 1, p 7, k 1, p 4, k 2, t o twice, p 2 tog, k 2.

11th Row—sl 1, k 1, t o twice, p 2 tog, t o, n, t o, k 3, t o, sl 1, n and b, t o, k 3, t o, n, t o, sl 1, n and b, p 1, sl 1, n and b, t o, k 3, t o, k 2, t o, n, t o, k 3, t o, sl 1, n and b, t o, k 3, t o, k 2, t o twice, p 2 tog.

12th Row—t o, p 2 tog, t o, n, k 1, p 1, k 1, p 6, k 2, t o, n, p 6, k 1, p 14, k 2, t o twice, p 2 tog, k 2.

13th Row—sl, 1, k 1, t o twice, p 2 tog, t o, n, t o, k 5, t o twice, p 1, t o, k 5, t o, n, t o, sl 1, n and b, t o, k 5, t o, k 2, t o, n, t o, k 5, t o, sl 1, n and b, t o, n, k 1, t o twice, p 2 tog.

14th Row—t o, p 2 tog, t o, n, p 9, k 2, t o, n, p 17, k 1, p 7, k 2, t o twice, p 2 tog, k 2.

15th Row—sl 1, k 1, t o twice, p 2 tog, t o, n, t o, k 1, n, p 1, n, k 1, p 1, k 1, n, p 1, n, k 1, t o, sl 1, n and b, t o, k 1, n, p 1, n, k 1, t o, k 2, t o, n, t o, k 1, n, p 1, n, k 1, p 1, k 1, n, p 1, n, k 1, t o twice, p 2 tog.

16th Row—t o, p 2 tog, t o, n, p 3, k 1, p 3, k 2, t o, n, p 3, k 1, p 7, k 1, p 2, k 1, p 2, k 1, p 3, k 2, t o twice, p 2 tog, k 2.

Repeat from first row.—MRS. J. L. TYLER, Schastopol, Cal.

WOMAN'S WISDOM.

Woman's Suffrage.

I have been very much interested in the descussion, pro and con, on Woman Suffrage in this department, and a hopeful (to me) sign of the times is that it would seem women are beginning to think, and to agitate a question of vital importance, not only to themselves, but to the whole civilized world. While many of our ideas may be crude and impracticable, yet we have faith to believe this chaotic state will finally evolve into perfection. As yet I cannot see in what way the granting the right of suffrage to woman would hasten or even bring about the great change for the betterment of mankind, as so many prophesy. We do not believe the ballot alone in the hands of women can purify the political world. Woman dominates the social world; does purity reign there? That the number of votes would be materially increased is true, but in many instances it would only duplicate in kind those being cast at the polls to-day. That the right of suffrage to men should be based upon intelligence of an accepted standard, we believe would be only right. Then it would no longer seem (as it does now) an insult and indignity to intelligent women to deny them the right that most unlettered of men are conceded; i. e., a voice in the making of laws that these intelligent women must conform to. No one can deny that there are laws in exhistence that should be repealed; they savor too strongly of the dark ages to be allowed to blemish statute pages of modern civilization and progress. Were these laws to be given to the world at-large, through the press of the country, it would awaken wonder and horror in the minds of either sex, that such laws were ever made by men having sisters, wives or mothers. They strike at the sanctity of their homes; therefore, are a menace to national interests. There is no denying that we have ignorant women in the masses as well as men, who would be inflamed and led by wily, unscrupulous office-seekers, as men have been in the past.

If women vote, they are eligible to office, must attend primaries, sit on juries, and would be expected to render service whether of an political, military, or civic nature, whenever called upon, however irksome. We have every reason to believe we would have women "heelers" and women "bosses."

Pray, tell me, what would become of the homes of our Nation? I do not believe to be a model housekeeper (though it is a very commendable trait) should be the sole aim and ambition of woman; but I am old-fashioned enough to believe nothing can, or should, supplant a mother's influence and training of her children. Woman, too, has physical disqualifications which may not be safely ignored. The mothers of the human race have a greater responsibility resting upon them than in all past ages. What we most need now to pave the way to an enlarged field of liberty is trained mothers. It would seem the educators of to-day have reached a system of study to perfect the mind and round the character of the student into perfect symmetry.

Nothing little or great is neglected in educating the women of to-day, except that branch of training which is of such vital importance to home and Nation, intelligent motherhood. Upon a perfect physique, united with perfect health, the intellectual and moral growth of the child depends. A healthy soul rarely grows in a diseased or stunted body, and a cheerful disposition, in itself a priceless endowment to young or old, seldom dwells in a feeble or diseased body. I want to see the girls of our land reach the perfection of noble, Christian womanhood, college educated, alive to their boundless opportunties, broader, purer, nobler minds. With such mothers for our future statesmen, surely the fondest hopes of the staunchest devotee of Woman Suffrage will find its fruition ere many generations shall pass away.—SUMNER'S WIFE.

The Children's Pocketbooks.

EDITOR FARMHOUSE: I see a great deal in the papers about caring for children when small, and while they are growing; but I see very little concerning the way they are to be taught to meet the cares of finances when grown. I know there must be some way to teach young boys and girls to be masters of their pocketbooks when they are grown, but that way seems to be a decided failure, for when I look around and see so many families with their homes mortgaged through pure extravagance, I know there must be something wrong some way.

I was once talking with an old lady, one of those dear old souls that can tell you just how to care for your family of little children, "without looking into a newspaper to see how those people do that never had any in their lives to raise. As she said, with a decided shake of the head, her son, poor Tom, had just had all his earthly belongings—but his wife, two children, and a wagon and team—taken for debts. "One thing," sighed the poor mother, "I have always done my duty by Tom, and if his pa had just been as kind and good to him as I have been, he would never have had anything to have marred his happiness while he was a child. I always did believe in children having a good time while young, because trouble comes soon enough when they get old.

"Poor boy, he always was great to buy everything that he wanted, and when he had no money to pay all his bills, and he would come to me and tell me the way his pa disapproved of the way he was getting to be such a "spendthrift," as he called it, I never could have the heart to refuse him, and I would always give him the money. And now I haven't any more money, and you see it is just as I predicted, trouble has come soon enough." Yes! dear old lady, soon enough, and no wonder! Young mothers, heed a good lesson, let's do away with this hateful experience, and teach our children, while young, lessons in economy.

Far better would it have been if Tom had been let pay his own bills; then he might have learned how money came, and perhaps saved him the humiliating experience of being "turned out" into the world with a family, and looked upon by his fellow-beings as an unlucky spendthrift not to be trusted in any one's debt too far, if they ever expect to get any of it again. Many and many is the poor boy who is brought up in just this fashion, and has landed behind iron bars, while a poor old gray-haired mother is driven to her grave 10 years before her time through the knowledge of having brought up a thief or forger, or perhaps worse.

I have talked with men and women that have nice homes, everything fixed just lovely, with nice families and plenty of money in the bank, and they would always say they bought this and paid for it, and that and paid for it. You know I always make it a rule never to buy anything unless I know right where the money is coming from to pay for it. That's the way father and mother always taught us to do, and I still cling to those old rules. And well they may. That father and mother did their duty by their children. —MANNETTA.

Beautiful Wall Pocket.

EDITOR FARMHOUSE: I want to tell the sisters how to make a beautiful wall pocket out of almost nothing. Take a large-sized palmetto fan, cut a piece of stiff paper crescent shaped just a little larger than the fan, for the pocket, baste firmly on the fan and bind the edges with braid, or ribbon, of a contrasting color. Tie a large bow on the handle, and tack just where you want it. I made mine out of stiff orange paper trimmed with the blue silesia and silk. I use it for pamphlets, magazines and papers. Of course, it is not strong enough for a great many at once.

Why is it that the Farmhouse is less interesting than formerly? Is it because we do not even try to write bright and interesting letters? What has become of the book and flower loving sisters? I enjoyed their letters so much. Let us have more of them.

Do any of you know anything as to the reliability of the advertisement of H. A. Gripp, German artist, of Tyrone, Pa.? I received one of his catalogs some time ago, and was greatly pleased with it; but, still, not knowing anything about the firm, I feel like it might prove unsafe to accept his terms. Thinking that perhaps some of our readers may know something of it, I decided to inquire about it, hoping they will mention it in some of their letters to the Farmhouse. I should be greatly obliged if they would.—ELIZABETH.

How I Went to the Party.

I felt considerably dejected and low-spirited, and when mother asked me the cause of this attack of the blues, I showed her the invitation to Mrs. Black's tea, that I had just received. No other explanation was necessary, for she knew the condition of my wardrobe as well as I did. I am only a poor clergyman's daughter, and my only means of support is what I earn as a music teacher. A month's sickness had taken all that I had saved for the proverbial rainy day, and I had made a solemn resolution not to go in debt. But I love society and pretty dresses as well as any wealthy man's daughter. Could I give up this party, which was an event of great importance in our quiet little town? To decline the invitation was to offend Mrs. Black, who had been very kind to me. If I could remodel an old garment to look presentable, I could go; if not—well I must give it up. So after the first fit of despondency had passed, I took an inventory of my wardrobe. Two street dresses hung upon their hooks. They were almost new, and well adapted to the purpose for which they were intended, but no amount of pretty accessories would make them appropriate for an afternoon tea party. There were two old silk skirts, whose waists were worn beyond repair, one dark-green, and the other wine-colored, also a skirt of plain wool challie, that had once been cream-color, but was now a dingy white. These were taken into the room where mother sat, patiently sewing on little sister's frock.

"Not much show for me, is there, mother? We might imitate Jacob's coat of many colors."

Mother examined the skirts critically.

"The silk is about the same quality," she said at length, "and the back of the skirts are full and not much worn. I think you could easily make a new skirt of them."

"But the color," I replied. "How can I make a skirt of part red and part green?"

"Dye them black," she answered, and then I caught her meaning. Two packages of black dye for silk were purchased at the corner drugstore, and the dye prepared according to the directions on the package.

The skirts were taken apart, the back widths washed and put into the dye; after boiling half an hour it was taken out, rinsed, and hung out without wringing. When dry it was ironed under a damp cloth, and it would have been hard to distinguish it from new goods. There was not a particle of difference in the color, either, for both were a crow-black. The linings of the old skirts were heavy, and not worn a great deal, so I washed, starched, and ironed them, and by using the best parts of the two linings, I had no difficulty in cutting the new one. I had a nice skirt pattern, and with a new canvas facing and velveteen binding, my skirt was soon completed. It was so handsome that all my waists looked shabby in comparison, so I began to plan a new one.

The challie was washed and dyed a deep crimson with dye for wool. Linings were cut of new silesia. The waist was made full in the front and back, and gathered at the neck and waist to the fitted lining.

The sleeves were full bishop shape gathered into velvet cuffs at the wrists. The pointed collar was of velvet also, finished around the lower edge with a full frill of black lace. As my eyes and hair are dark, this suit is very becoming to me; in fact, I have been complimented more upon it than any dress I ever had.—DOROTHY HARPER.

The Insect-Trap of the Dogbane.

On the inside of the corolla, near its base, are five triangular callosities, with their points up. These are placed in such a way as to alternate with the stamens, and stand a little below them, so that the two hard points at the bases of two neighboring anthers and the hard tip of the callosity—three little horns—come together like the teeth of a trap. There are no fewer than five places inside the flower's cup where these traps are set, and inside the circle of traps are the glands which contain nectar. The flower is visited by bees and flies.

The insect caller must run his proboscis in between the long anthers, and just above the horny excrescences on the corolla. When he attempts to withdraw, after drinking his fill, the three points lock together, like the jaws of a trap, holding the tip of his proboscis in durance vile. If the winged captive is big and strong, he gets free, with a long and a vigorous pull. But small flies are often held prisoners till they die, probably from starvation. Sometimes one may see three or four of these hapless victims on one full-blooming plant of spreading dogbane.

Among the prisoners one may often see a little Summer fly of dudish aspect, with body ringed with alternate bands of bronze and gold, and wings of gauze shot with opaline colors. To what end is this bright little fellow sacrificed? Held as he is by the tip of his proboscis, his body does not come in contact with the plant, and hence it cannot be digested by the vegetable juices, as are the corpses of the sundew's victims. The dogbane is apparently unable to furnish any adequate justification for his taking off.—*Popular Science Monthly.*

The Load of a Dust Storm.

Blown dust is a general and familiar nuisance to housekeepers over the entire West. A minimum estimate, varified by direct observation, for the quantity of dust settling on floors during such storms is about a fourteenth of an ounce of dust on a surface of a square yard in half a day. A maximum estimate made on the basis of the above newspaper accounts would be at least five pounds to a square yard of surface for a storm lasting 24 hours. If we then suppose that a house that is 24 feet wide and 32 feet long has open crevices which average a sixteenth of an inch in width and have a running length in windows and doors of 150 feet, the wind may be supposed to enter half of these crevices with a velocity of five miles per hour for the time the storm lasts, or for 24 hours. The dust may be supposed to settle on not less than 85 square yards of surface, including floor space and horizontal surfaces of furniture. The minimum estimate, based on these figures, gives us 225 tons of dust to the cubic mile of air. The maximum estimate would be 126,000 tons.—*Popular Science Monthly.*

RELIABLE PATTERNS.

Guaranteed to Fit if Proper Size is Given.

We have made arrangements with one of the oldest and most reliable Paper Pattern houses in New York, which enables us to offer our readers standard and perfect-fitting patterns of the very latest and newest designs.

These patterns are retailed in stores at from 20 to 40 cents. We have made arrangements whereby we can offer them at the extremely low price of 10 cents.

A paper pattern, of any size, of this illustration may be obtained by sending your name and address, number and size of pattern desired, together with 10 cents for each pattern, to the **Pattern Department of**

THE AMERICAN FARMER,
Washington, D. C.

PLEASE OBSERVE THE FOLLOWING MEASUREMENTS.

For Waists: Measure around fullest part of bust, close under arms, raise slightly in the back, draw moderately tight.

For Skirts: Measure around the waist, over the belt; draw moderately tight.

Printed directions accompany each pattern, showing how the garment is to be made.

When ordering patterns for children, please also state age of child.

20657 - 20651.

20657-20651—LADIES' COSTUME.

Here is a very stylish design for a new Fall gown. Dark-blue figured mohair combined with silk of the same shade were the materials used for its development. The modish bodice is cut with a full blouse front of the silk, on each side of which are displayed stylish jacket fronts of the cloth adorned with large revers faced with silk. The back is cut in one piece with the slight fullness confined by gathers at the waist lines. The crush collar and narrow belt are of velvet.

The handsome skirt is made with nine gores and has its four back gores gathered. Canvas cloth, covert, broadcloth, serge, cheviot, taffeta or gros-grain silks or almost any fashionable material can be used for this costume.

20657.—LADIES' BASQUE WAIST (with Jacket Front and Two-piece Sleeves,) requires for medium size 4¼ yards material 22 inches wide, 2¾ yards 36 inches wide or 2½ yards 48 inches wide. Lining required, 1½ yards. Gimp represented 3 yards; ribbon 3½ yards. Cut in 5 sizes—32, 34, 36, 38, and 40 inches bust measure. Price 10 cents.

20651.—LADIES' NINE-GORED SKIRT (having its four back gores gathered,) requires for medium size 7¾ yards material 22 inches wide, 5½ yards 36 inches wide or 4 yards 48 inches wide. Lining required, 7 yards. Length of skirt in front, 41 inches; width around bottom 5 yards. Cut in 6 sizes—22, 24, 26, 28 30, and 32 inches waist measure. Price 10 cents.

20661

20661.—GIRLS' DRESS.

This little dress is made of dark-green-and-white figured novelty goods. The pattern is cut with a full blouse front which "bags" slightly in the manner so becoming to children. The back, where the costume closes, is gathered.

The handsome one-piece sleeves are finished by pointed cuffs of velvet to correspond with the jaunty pointed trimmings placed over each shoulder. A stock collar, fastening under a smart bow in the back, finishes the neck. A fitted lining is required for the bodice. The straight skirt displays the proper amount of fullness and is plainly finished by a deep hem. Serge, cheviot, canvas, mohair, challie, taffeta, foulard, gros-grain silk, etc., are appropriate for this model.

20661.—GIRLS' DRESS

(with Blouse Front, One-Piece Leg-o'-Mutton Sleeves and Full Straight Skirt,) requires for medium size 4¾ yards material 27 inches wide, 3¾ yards 36 inches wide or 3 yards 48 inches wide. Lining required 1¼ yards; velvet represented ¼ yard; buttons 30. Cut in 5 sizes, 8, 9, 10, 11 and 12 years. Price 10 cents.

Oil Meal for Horses.

Some caution must be exercised in feeding oil meal to horses when engaged in active work, lest the bowels become unduly lax. The oil meal should not compose more, perhaps, than one part in 20 of the whole grain ration fed. To colts, however, it may be fed more freely. In the season they can profitably use from one-fourth to one-half pound per day. It develops in them muscle and bone, so helpful to their future usefulness, and it gives to their coats a glossy skin, which indicates a healthy condition of the digestive organs. The hair and coat of cattle are also similarly improved when oil meal is fed.—*Prof. Shaw, Minnesota.*

AFTER MANY DAYS

The evening was beginning to fall, but still the window-panes of the little attic, *sixième*, occupied by Mr. Philip Weston, Professor of Greek, Latin, and English, were still reflecting the primrose tints of the western sky, where the light of the departed day was lingering.

Mr. Weston was meditating a departure also, and the road he had elected to travel lay through the muzzle of the cheap, clumsily-made Belgian revolver he was carefully examining by those fading rays. It really did not matter two straws to anyone whether he took this course or waited for the slower death of starvation which had been staring him in the face many a day past, and he remembered with a sigh of content that no living creature would utter a word of regret when all was over—his heart was as bare as his garret.

Some inexplicable feeling now made him lay down the weapon and cross to the window, whence he could see the crowded streets below, where the gas-lamps were beginning to twinkle, and whose murmur rose in a sharper diapason, the strenuous time of toil having been succeeded by the evening hours of wandering, loose-lipped enjoyment. After a pause, the man looking upon it all nodded his head, kissing his hand with a sardonic laugh to the tiny groups in isometric perspective beneath, and then, rousing himself, closed the window, but stood listening a moment, for a faint chord of music vibrated upward from the great room on the ground-floor, where cardinals had once been received, and where now a *cafe chantant* was established.

Mr. Weston listened a few minutes until the uncertain violins, catching suddenly at the proper note, broke into a jigging quick-step, when, shrugging his shoulders, he raised the revolver, and instinctively covering his eyes with one hand, put the muzzle to his mouth.

At that instant, an approaching footstep, which his attention to the music prevented him from hearing before, sounded on the creaking boards outside, and was followed by a light tap on the door panels. A second later the door itself was pushed open.

Mr. Weston put down his pistol hurriedly. He had forgotten to turn the key in the lock. He was, however, too far beyond the influence of ordinary emotions now to feel irritated by the interruption; but had he felt so, the sweet face confronting his might have disarmed him.

It was a young girl's, a girl of perhaps 15, and as she stood there in a pretty attitude of deprecation, the great, luminous eyes he had casually noticed once or twice before seemed to look at him through and through, so that he dropped his own.

"Come in, Therese," he said, according to his wont, kindly. "Well, what do you want now?"

"The dictionary, Monsieur, if you please."

Mr. Weston made a pretense of looking round the desolate room. Alas, he knew only too well how this useful aid to knowledge had gone the way of poor men's books.

"I must have left it at the Lycee," he muttered, alluding to an imaginary abode of learning where he was popularly supposed to give lessons; "but if it is a difficult word, perhaps I can spell it for you."

"Monsieur, it is not a word, but a phrase I met in a book"—the child paused and reddened slightly—"I have been reading this afternoon."

"Oh, indeed. You are an indefatigable student, Therese. Well, what is the phrase?"

"It is Latin, I think. See, I have copied it out," she replied, handing a scrap of paper to Weston.

Mechanically adjusting his pince-nez, for eyes which failed him too soon, the man read:

"Breve enim tempus ætatis satis est ad bene honesteque vivendum."

It was his turn to flush a little now. There was a time when he had thought the span of brittle life too short for all the noble things he fain would do. He explained the meaning of the words, many memories crowding upon him.

"Where did you read this?" he asked, a new interest in his voice.

"In a book called 'The Crown of Life.'"

"An English book?"

"Yes, Monsieur."

"Ah, that accounts for your English. You speak it very well."

"Oh, but I am English. The book is one my dear mother had. She kept it carefully, and I began to read it only the other day."

Philip Weston turned his back to the light. He remembered the book distinctly. It had been one of those phenomenal successes of a season which invariably herald either a brilliant series of triumphs or a dreary succession of failures; for a sudden, unlooked-for victory at the outset of a literary career is even more trying to staying power than a train of uninterrupted rebuffs—defeat being often a blessing in disguise, since it enables a man to detect the very faults which might have been hidden from his eyes by the dazzling brilliancy of initiatory success. Philip Weston, however, had not followed up his first essay, and "The Crown of Life" remained in the literary world one of the few fortunate hits which the author had not equalled or stultified by a second attempt.

In justice it must be admitted that circumstances had far more to do with this than either Weston's sagacity or timorousness. Just after the publication of "The Crown of Life," while the anonymous book was being praised all over London, and speculation was rife as to its author's identity, he quietly married a young lady who had already established a moderate reputation at one of the lesser theaters. The marriage was not a happy one, and before long the young wife's inexperience provoked an estrangement that grew and widened with the passing days.

For a time, indeed, husband and wife went their different ways, endeavoring to forget the yoke binding their unwilling necks, until at length a sudden violent quarrel culminated in a separation, Philip Weston having used words few women forgive. The wife immediately left her husband's roof, taking with her their only child, though leaving him to infer the worst. The man, his first wild anger past, accepted the situation dully, broke up his home, ceased his literary work, and went abroad, having lost all his illusions and ambitions at one blow; for he was not of the resolute stuff which strides on to success even upon the desolation of a heart and the ruins of a home. He thought of those things now.

"Do you know who wrote it?" he asked, coldly.

"Oh, yes, Monsieur; my father."

Philip Weston sat down, and, taking the revolver, began to polish the butt where the nickel had partially worn off.

Again the preparatory scrape of the violins vibrated upward through the worm-eaten floors, a young man's laugh mingling with it. He was a Sergeant of Infantry, and a *viveur* who had lately frequented the place. Therese reached out her little hand for the paper, saying:

"Pardon, Monsieur; they are commencing. I must go."

"Stay a moment. Where is your mother?"

"Ah! do not ask." The violet eyes filled imploringly. "She is dead."

"Dead! How long?"

"Two months now. She died a few days before you came here. She was very clever, and used to play at private theatrical entertainments and recite and teach music, but her health broke down quite suddenly. Something, she said, snapped in her heart, and then she lost all her pupils, and we came to live in this place."

The literary imagination filled the gap. There were girl's voices laughing through the jigging of the violins now; the Sergeant was telling a story.

"And you sing here?" the man asked drily.

"Yes, Monsieur. Sometimes it is pleasant, but not always. But the people are rather kind."

Philip Weston smiled bitterly.

"Did your mother ever speak of your father?" he asked, his voice sinking to a whisper.

"Yes, often. She said he was a great writer—that he had written the book I spoke of. But there had been a misunderstanding—he was unjust—she said she would explain when I got older."

"Poor soul, poor soul!"

"You speak as if you knew her. Oh! did you? My dear, dear mother!"

"THEY ATTEMPTED TO DESCEND THE RICKETY STAIRS."

The man nodded. He could not trust his voice.

A bell tinkled, jerked violently from below.

"Ah! I must go now."

"Stop! What was your mother's name?"

"Therese, like mine. I am called after her."

"But, the other name?"

"She used a stage one always. The people engaged her by it for their entertainments."

"Ah, but her husband's?"

"She never mentioned it. She told me my father said she had no right to bear it, and that now she never would do so until he sought her and unsaid his words. She meant to explain everything, but death came all in one night, and she had no time."

"Have you never seen your father? No photograph?"

The girl shook her head.

"Mother often described him to me," she replied; "a young man, tall, with light hair, who walked like a soldier."

The bowed man before her smiled. The description would not aid the most lynx-eyed detective now. He regarded the child wistfully. The bell tinkled once more; she moved restlessly. Stepping to the door, he put his back to it.

"She was my wife," he cried, brokenly; "you are my daughter. Oh, my God, how fine Thy mills grind!"

Therese gazed at him, scarce comprehending, her eyes almost blinded by unshed tears, her hands locked convulsively.

The music below swelled into a fuller sound and then was lost in a crash, followed by a deafening thunder-clap. Therese turned pale. Presently the whole room was permeated with a strange, gaseous smell. Weston opened the door. A confused murmur wavered up from the *cafe chantant*. High above it a woman's startled voice shrieked "Fire!"

There had been an explosion of gas, and the old house was even now burning like tinder, the scenery below having caught fire almost immediately. Stepping forward, Weston took the girl's

"AT LENGTH THEY REACHED THE GABLE-END."

arm in his and attempted to descend the rickety stairs, but at the first landing they were compelled to halt, a volume of stifling smoke rolling upward in a dense, opaque column, and cutting them off from the people below, whose confused shouts babbled dully through its clinging pall, so that ere long they were glad to retrace their steps and regain the garret.

Dashing to the window, Weston flung it open, and, seizing the child, lifted her to catch a breath of the evening air, the smoke pouring out in dense masses with the draft. Below, the roof sloped sharply towards the street, the edge cutting violently against the dim, twinkling Place, that seemed very far off now.

To the right stretched some few square feet of slates, and then came a gap, the slanting line of the gable-end showing clear against the sky. The house was a corner one, and Weston's attic the nearest to the street on which it abutted.

On the left, however, the other gable-end rose high above a second roof, which was also uptilted at a perilous angle, and on this side lay whatever slender chance of escape presented itself to the gasping prisoners. Between them and the point indicated projected the dormer windows of two other attics belonging to the burning house, and opening upon a common passage with that occupied by Weston. If the room farthest off could be gained, they might thence reach the fantastic corbel-steps of the gable-end, and, perhaps, be rescued when the people in the street saw them, though the hope was frail, the house being the highest as well as the oldest in that quarter.

Presently a hand touched his, timidly. The child had slipped her quivering fingers into his. It gave the man courage.

"I'll save you yet, little daughter," he cried, pushing on; "you were sent to me in a dark hour. It cannot be that I must lose you now!"

The girl sank down by the open window and began to pray, her hands clasped upon her eyes. The man began to pace the creaking floor, reeling in his gait, for the smoke had almost stupefied him. Soon a crash shook the building. One of the lower floors had fallen in.

Mingled with the report, however, rose a faint cheer, but not from the street directly beneath, showing that the fire brigade were on the spot, and were even then possibly engaged on the front of the house. Therese sprang to her feet, the love of life in her terrified eyes.

"Oh, father," she cried, imploringly, "can you not save me? Is there no escape?"

Philip Weston wrung his hands.

"Why not go out on the roof?" continued the girl.

"On one side there is a street, and on the other a fall of several feet on to another roof which slopes even more than this. I noticed the pitch a day or two ago. Even if we got so far, it would be impossible to descend."

"But they might see us from the street and get ladders!"

"Yes, if they were quick enough and knew our danger, as they would if we were in the front attics; but to reach them we should go down to the landing, and that is out of the question now."

The girl burst into tears. Weston looked round the room desperately. He had no intelligent idea of doing anything, but the child's sobs tortured him. The miserable pallet on which he had slept, as he thought his last sleep, occupied one corner, and in the other stood a rough deal box that had contained the clothes and books—long since disposed of—which he had brought with him to the place. Half smiling at the futility of his action, he approached the bed and began to tear the sheets and blankets into strips, knotting them together afterwards in order to make a line, as he had read of men doing in similar circumstances, though he guessed the wretched material would never bear his daughter's light weight, much less his own. When he had completed the rope he threw one end over a nail fastened high in the wall, and bore downward steadily. As he expected, the improvised rope broke. Muttering a curse, he tossed the fragments from him.

"No, my daughter," he said, with unconscious cruelty, "we are trapped like rats, and must die, it seems, just when we had found one another."

"But I am afraid to die," panted the girl, her young blood thrilled with hope and fear. "It is awful! Listen to the flames! Let us get out on the roof. It is not so very far away. We shall at least be in the open air. I cannot die shut up here."

Philip Weston thought one instant of the revolver and its single cartridge still lying on the table, but his soul recoiled from the suggestion. The cry of the girl, however, touched the numbed and palsied energies of the man, rousing him to sudden action. A fresh thought struck him.

Rushing to the window, he looked upward to the roof-ridge. It was, perhaps, 10 or 15 feet away, but could be easily reached by a short ladder. This he had not, but an expedient was fast shaping itself in his mind. Stepping back to the bedstead, now stripped of its squalid furniture, he wrenched out the iron girder which had held the framework together, and, exerting all his strength, he bent the curved metal until it had taken a hook-like shape. Next he drew from behind the box a pile of rough manilla rope, which had been used to secure the contents, and, bringing it to the window, rapidly examined the coarsely-plaited fibers.

Satisfied with his inspection, he rapidly bound one end to the girder and formed a running noose at the other, the girl watching him, her hands clasped, and the certain, expectant faith of childhood in her eyes. Then, bidding her wrap round her loins the rug that did duty for a coverlet, he hastened to the window and, leaning as far out as he dared, whirled the improvised grapnel upwards to the roof-ridge. Twice he essayed and failed, but the third time it stuck fast between the loosened tiles, so that he found with joy he might trust to its hold.

Now directing the girl to pass the looped end round her waist, he left the window and by slow degrees climbed up along the slanting slates until he was astride on the crest-tiles. Then, steadying his voice gallantly, he called Therese to follow. The child, who was already half out of the casement, strove to do so, but her senses were fast deserting her, and she was almost incapable of obeying him.

It was a terrible moment. He heard the crash of another floor, and the intermittent weltering plash of the water from the firemen's hose upon the cracking walls, as it sent miniature torrents along the melting gutters, its hiss sounding in his ears like the menacing voice of the victorious fire whose flaming tongues were already running swiftly up the splitting woodwork of an attic window in the front. Praying the knot would hold, he wound the rope round his wrist, and at length drew her, by a herculean effort, clear of the casement, sword-like blades of wavy flame darting out the next instant, flickering to and fro in the languid breeze, as if seeking for their prey that had just escaped them.

Therese was almost unconscious now, and he was obliged to keep her under the lee of the crest-tiles, so that the cool, fresh evening air might revive her. Otherwise, the rolling clouds of hot smoke, lazily curling over from the front of the burning house, would have probably stifled the breath still trembling on her lips.

Therese drew a shuddering sob, and looked up.

"Where am I?" she cried, pushing her hair from her startled eyes.

"Here, safe, with your father," answered Weston, "but we must not stay long," and he pointed to the blazing attics. "There is no chance of being seen from the front. Our only hope is to get on the gable-end. Are you strong enough to begin?"

"Yes, father."

"Very well. See, I fasten the rope round my waist—so. You cannot slip now. Climb up and sit on the crest-tiles as if you were on horseback. Good!"

Agile as a squirrel, the girl was soon seated behind her father on the broad, saddle-shaped tiles.

"Now," continued Weston, speaking over his shoulder, "do not look down towards the street on any account, but watch me, and move a second or two after me each time I move, and do not forget to keep the rope taut between us. Ready? Come, then!"

Still astride, Weston lifted himself slightly on his hands and pushed forward a little distance, the girl shifting her position also, and thus began their perilous advance. The progress was slow, and more than once they were obliged to pause, panting in the terrible depths of the pitchy smoke-clouds which blotted the light from their reddened eyes, and hung close about them like some huge, formless monster slowly strangling its victim's life out with the deadly clasp of impalpable coils. At length they did reach the gable-end, where a high chimney-stack beetled over the neighboring roofs. But here a new obstacle confronted them, appalling the girl, stupefying the man, as they clung, horror-stricken, to the old-world corbel-steps. The next house, an oil shop, which was considerably lower, had caught fire also.

This place, indeed, had formerly been part of the house where Weston lodged, forming in 17th century days a wing of the great hotel when it belonged to a noble French family, and being now merely partitioned off for business purposes, with wooden party-walls, had fallen an easy prey to the fire. Even as they looked, sinister forks of flame peered up between the slates on the roof itself, which was fast melting away before their resistless advance, while whirling volumes of smoke, black above, red-shot below, swept upward in endless vertiginous eddies.

"If we had stayed where we were," muttered Weston, "it would have been over now."

Behind came a scorching blast of furnace-heat, accompanied by a clattering crash, and, looking over their shoulders involuntarily, the fugitives saw their own roof was on fire at last, the ravening flames ripping the splitting slates from the cracking rafters as they came.

"Oh, God, is this the end?" moaned the girl, wringing her hands. "Must we be burned alive—oh, father—alive?"

Weston did not reply. He looked down into the awful glare below rather than meet the glance of those appealing eyes. Just then the smoke clouds reeled apart, and he saw a maze of telegraph wires threading their way through the rolling vapor. They were numerous, and closely set in three or four tiers upon the cross-staves, the pole itself being fastened firmly to the side of the gable where he and his daughter crouched, the situation offering a favorable *point d'appui*. Following their direction on one side, Weston observed that they ran clear over the street directly beneath to a second roof, which, he could make out dimly, was flat. There, again, another support had been fixed. With the sight came a desperate thought—a thought which was put into words a moment later by his child. Noting his look, Therese had thrust her head under his arm and had caught sight of the wires.

"Thank God!" she gasped. "Oh, father, we are safe, after all! See, we need only leap down on those wires and tread our way across the street. How lucky it is narrow!"

"Are you mad, girl? Those things would snap under our bodies."

"No, no. That is a mistake people often make. Every one of these is strong and quite capable of bearing a good, heavy weight. There was a girl at the *cafe chantant*, a most respectable girl, father, and she used to walk on wires quite as thin as any you see here. She told me all about it. But we, of course, need not do that. There are so many, we can get some under our feet and others under our hands, and cross thus more easily than you could imagine."

Weston was not convinced, but the desire of life was fierce upon him now. The wires were just beneath, several feet away. A downward leap would certainly reach them. Then, a daring man might work his way along their length—if they held, or if their resilience did not send his body spinning into the air before he could secure a grip upon them. At the worst, it was simply anticipating by a few moments the death which was speeding rapidly towards them beneath the hot slates that were blistering their shifting hands.

"You shall take your chance, little one," he cried, suddenly; "but let us get down by those steps, and be as near to the wires as possible when we take the leap."

Without another word they cautiously descended, until they were close to the spot whence a quaintly carved gargoyle still grinned from that dizzy eminence as it had grinned upon the men and manners of many a vanished generation. In the immediate vicinity of this point the roof of the house below was untouched as yet by the fire, and the fugitives had a few moments' breathing space. Weston took a knife from his pocket and opened it stealthily; but the girl was too quick for him.

"No, father, don't cut the rope!" she cried; "the wires are quite strong enough to hold us both. And if I slipped, who would save me?"

Weston reflected a moment, and then nodded assent; the hooked iron which he had used as a grapnel still hung by his side, for he expected it might be needed again. Quickly severing this, he attached it as firmly as he could to that portion of the line nearest the girl's waist. Should they be successful, it would prove a useful stay amid the wires, and afford some slight support in case of a chance slip. These preparations completed, he bade her draw the rug tightly round her knees to save them from the first impact, and then told her to give the word when they should leap. Silent they hung together one breathless instant, peering down into the flame-shot smoke, and then, warned by a thunderous crash, they sprang from the gable.

A second later they struck blindly against the wires, and there clung gasping, amid the creaking strands, which quivered and leaped with horrible, oscillating jerks as if the things were sentient, and were struggling to hurl them far over into the street. Above them whirled an awful arch of smoke, from whose lurid coils dropped a glowing mist of fiery sparks, blistering their faces, their hands, and singeing their hair in patches to the very crown. Beneath they heard the roaring of the fire.

Weston opened his eyes, having involuntarily closed them when he alighted. He found himself almost upright, lying against the wires which arrested his fall. So thickly were they strung that he succeeded in clutching a couple in each hand, and although he experienced a swaying, sickening sensation of being suspended in mid-air by perilously insecure supports, yet he knew for the moment he was safe.

"Father, father, are you there?" cried a childish voice a little above him in the gloom.

He groped upward and succeeded in lifting himself somewhat.

"Yes, dearest," he replied; "have you a good hold?"

"Yes, I am all right. I have the wires under my feet. Try and get them under yours, too."

Weston lifted himself higher cautiously, and slowly moving his feet to right and left, at length rested the soles upon one of the vibrating wires. Then he carefully shifted his place until one of his outstretched hands touched the girl's elbow. She was still a little above him; consequently, the same set did not support them both. Still acting with extreme caution, he drew the rope binding them together towards him, and hooked the grapnel amid the wires, but so that it could move freely as they advanced.

"Now, father," cried Therese, almost gaily, "I shall go forward a few inches. Then do you follow, and thus we shall cross safely."

It was not a time for words, the deadly smoke yet enfolding them. Immediately they began their dangerous passage the grating of the iron hook apprised Weston of the girl's successive movements. Bit by bit they crept along the swaying wires, and soon the dull, confused murmuring which pierced the opaque mist beneath showed them they were clear of the house eaves, and were winning their way across the street. The evening breeze was beginning to freshen, and as the smoke thinned away for a moment or two, a hoarse roar from the multitude below told that the crowd had caught sight of them, and then, as they were seen more plainly, a ringing shout of encouragement rent the veering smoke-wreaths.

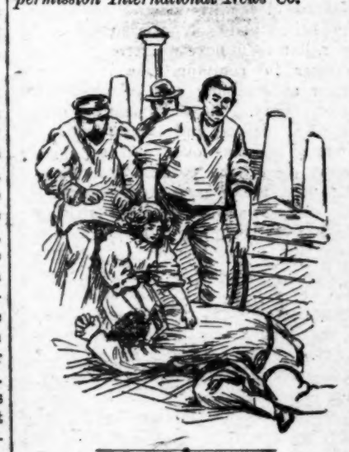
Soon they were half way across, going at a wider interval, lest their combined weight should prove too much just here. As it was, the wire beneath Weston's feet suddenly snapped with a tang that made him shiver, and for an instant he hung by one arm; but the hook did its work well, and the girl, divining instantly what had occurred, clung tenaciously to her grip until her father, by a desperate effort, righted himself.

At length they had emerged from the smoke, and could discern plainly the scorched shrubs on the roof they were nearing, while an inspiriting cheer from the street nerved them anew. On they crept, the girl leading the way, panting with the effort through her tightly-clenched teeth, her arms aching horribly, one little foot, from which the worn shoe had been rent, torn and bleeding. The wires were taking an upward slant now, and slight as it was, it tried their weary frames to the utmost. But still they struggled on, gaining inch after inch; seeing men, too, on the house leads opposite holding out an improvised netting strung across poles, lest their strength should fail them at the very last. By this time the street from end to end was one universal roar of encouragement, every window alive with eager, upward-gazing faces. At length they were quite close to the projecting cornice.

"Courage, father," cried Therese. "I am clear of the street; only a few steps farther."

Her words were lost in a ringing, snapping jar, and the wires sagged suddenly beneath them, the pole at the other side having been burnt from its fastenings. Weston uttered a cry of dismay, but the girl at the instant let herself drop upon the roof, and, grasping the rope in both hands, bore backward with all her might to counteract the downward trend of the jangling wires. After one mad moment of blind scrambling, a dozen willing hands pulled Weston to safety—giddy, staggering forward, falling almost at the feet of his child.

He did not rise at once, but remained thus for a little space, apparently exhausted by the terrible ordeal through which he had passed. But in reality he was praying for strength to use worthily the new life that had been given him in the new hope dawning upon his soul.—*Strand Magazine, by permission International News Co.*



An Open Letter.

TO WILLIAM JENNINGS BRYAN:

I have read thy New York speech carefully. I agree with thee—money should neither increase nor decrease in value. Value comes from labor; things like air and water, which cost little or no labor, have little or no value. Christian civilization, with its inventions, machinery, and competition, produces most things with less and less labor; consequently, prices justly come down when paid for in either labor or "honest money."

Money which, as time goes on, will buy less and less labor is not "honest money." A pound of silver will buy only about half the labor it would 20 years ago. I cannot see how the free coinage of silver, 16 to 1, can give us "honest money." An ounce of gold will buy about the same amount of labor it would at any time for the last 20 years. Surely gold is the better standard for "honest money."

Please consider these facts in thy search for "honest money."

Thy friend, UNCLE TRUE.

The Cream Separator.

The cream separator is made of small sizes, suitable for the milk of three to five cows at the least. It is such a convenient machine that it will be desirable to use it with as small a dairy as this. But for a single cow it will not answer. There should be no difficulty in getting the cream from milk set in shallow pans where no ice can be procured, if a cool cellar is used. At 60° or 65°, which is very warm for a good cellar, milk will not sour in less than 36 hours, which is time enough to get all the cream. A separator for five cows will cost $125.

LIME ON ACID SOIL.

Observations on its Effect on the Growth of Various Plants.

In 1893 the Rhode Island Experiment Station began experiments to test the influence of lime in connection with other fertilizers, especially nitrate of soda and sulphate of ammonia, on a large variety of field and garden crops grown on well-drained but acid soil. The yields of the different crops are tabulated and their appearance is shown in plates. The summary of results during 1893 and 1894 is as follows:

"Our sandy loam soil, where the natural drainage is good, has been found to be decidedly sour or acid, and some plants almost refuse to grow, while others flourish upon it. By the use of the air-slacked lime, which reduces or overcomes the acidity of the soil, the yields of a number of plants have been increased from four to 11 times; with a number of others the yields have been doubled, while with a few plants they have been reduced from one-half to one-fourth of those obtained without lime. The plants ordinarily grown in Rhode Island which have shown an injury from the use of three tons of air-slacked lime per acre are the pumpkin, watermelon, and Indian corn (field variety). In other experiments where smaller quantities of lime were used, Indian corn was slightly benefited or uninjured. The time of ripening of the watermelon was hastened by the use of lime, a fact which in our latitude fully compensated for the reduction in its yield. The greatest drawback to the use of lime which we have encountered is its tendency to increase the potato scab—[but] lime has invariably increased the yield of large tubers and frequently the total yield. In regard to the maturity of the crop, that of the kohl-rabi was hastened remarkably by the use of lime, and that of the Summer squash to some extent.

"Spinach and lettuce were more seriously affected by the acidity of the soil than any other crops grown, and almost failed in some instances to gain a foothold even though the seeds germinated well. The most important Rhode Island crops which were decidedly benefited by the use of lime were the beet, onion, muskmelon, cabbage, cauliflower, cucumber, barley, red clover, pea, and ruta-baga or Swedish turnip. Tobacco sorghum, and wheat, though not Rhode Island crops, should also be mentioned, owing to the fact that they are important crops elsewhere. A number of other crops less generally cultivated were also greatly benefited by lime.

"Marked differences have been observed between individual members of the same family of plants; for example, of two leguminous plants, the clover and the lupine, the former cannot be grown successfully on our soil without lime, barnyard manure, or some other alkaline treatment, while the latter is injured by lime; again, in respect to the melon family, the muskmelon was a total failure without lime, while the total yield of watermelons was not increased by it. In regard to the cereals, barley was not a success without lime; wheat and oats were benefited by it in the order named, though in a less degree, while the rye derived but little benefit from it.

"Perhaps the most important points brought out by this experiment are the following, namely, the necessity for the examination of upland soils relative to their acidity, and the recognition of its possible effect in connection with plant experiments, and also the necessity of employing a large number of plants in experiments by which it is hoped to establish general principles."

Cut Feedfor Horses.

All farmers use cut feed for horses when at hard work, because there is a great saving in the labor needed to digest cut feed. If mixed with some grain meal, and wet so that the meal can only be got by eating the cut feed mixed with it, the whole will be chewed sufficiently to moisten it with saliva, which is necessary to quicken digestion. But this economy in feeding cut feed it also important when the horse is not working. If the cut feed is corn stalks, it should always be steamed or wet with very hot water, so as to soften the cut ends of the stalks, which may cause injury. This is best also if hay or straw is cut, particularly wheat or rye straw, which being harder than cut hay and less nutritious is not so likely to be thoroughly chewed. The stomach of the horse needs a slight irritation. This is the advantage which the oat has over other grains. Its hull helps the grain to digest better, and this makes the horse feel frisky and able to do his best. It is an old saying of farmers that when an old horse begins to act unusually coltish he has probably "got an oat standing cornerwise against his stomach, and he jumps around so as to get it out." It is a homely illustration, but may have much truth in it.

Soft Pedal, Please.

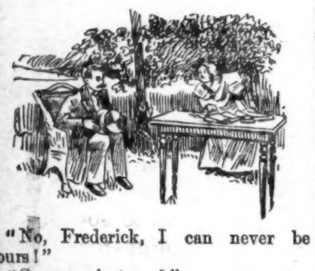
Bobby—Auntie, has Mr. Toner a very deep voice?

Auntie (whom Mr. Toner has jilted)—Rather! When that man sings, my dear, it hurts his corns.

He—Your heart is cold.

She—Yes, I should have taken mother's advice and worn a high-necked dress.

A Question of Ownership.



"No, Frederick, I can never be yours!"

"So you reject me?"

"I am a member of the Emancipation club of women, and I cannot be yours, but you can be mine, if you like!"

—*Fliegende Blaetter*

No Wonder He was Ill.

Maid—Indade, mum, I has bad news; my brother Jim is sick.

Madame—What is the cause of his sickness, Mary?

Maid (mournfully)—The doctors tolled him he's got a torpedo liver.

"What was the verdict in the bigamy case?"

"They turned the man loose. It was proven that he had three wives."

"Why, that was bigamy."

"The jury said it was insanity."

Knew One of the Tricks.

"I don't see what fun it can be for you to go on these fishing expeditions with your husband," said her best friend.

"That's because you don't know anything about fishing," she replied.

"Do you?"

"Oh, yes, indeed. I can sit in the stern of the boat, and give advice with the best of them, and when a fish gets away there's no one can beat me telling how it ought to have been landed."

"I shouldn't think that would be much fun."

"That's because you don't know how mad it makes my husband."—*Chicago Post.*

As Old as Noah.

Mr. Reynolds is a bright and well-preserved old gentleman, but to his little granddaughter, Mabel, he seems very old indeed. She had been sitting on his knee and looking at him seriously for a long time one day, when she asked suddenly:

"Grandpa, were you in the ark?"

"Why, no, my dear!" gasped her astonished grandparent.

"Mabel's eyes grew large and round with astonishment.

"Then, grandpa," she asked, "why weren't you drowned?"

Bewilderment of grandparent.—*London "Answers."*

Millions of Melons.

Southern Georgia is the land of watermelons. Here the watermelon is king; for here everybody believes in watermelons. Melon fields extend from 10 to 100 acres. Vines covering 50 and 60 acres of ground are not an uncommon sight. Some growers have cleared $5,000 on their watermelon crop alone. Those who do not make a specialty of watermelons have from five to 10 acres. This acreage will bring at least $500, or at the rate of $50 per acre.

The watermelon district of southern Georgia extends all the way from Thomasville, near the Florida line, to Albany. These two places are headquarters of the watermelon crop, although immense quantities are shipped from the many other stations in the district.

The melons are packed into a car on the side-track, having a layer of pine straw on the bottom of the car. Those of regular size and shape form the lower part of the pile, and those of irregular size are put on top. When the "special melon train" comes along, the car is hitched on, and away it goes on its two days' journey northward, side-tracking everything that gets in the way, even passenger trains.

Every day for weeks car-load after car-load of melons rolls over the railroads leading into Jersey City. Each car, as we have said, will hold about 1,200 melons, and when the melon trains dump their shipments the big freight depots present sights worth traveling across town to behold. The striped and dark-green balloons are ranged in great piles. Each pile belongs to some dealer, and often bears his name. Although thousands of melons come on each train-load, every one must be checked off and compared with the bill of lading. Of course a few melons are broken in transit, and at the docks and depots you will find a crowd of gamins desperately begging the longshoremen or the drivers for a broken bit: "Say, boss, just t'row me dat chunk—do, please." You will find your colored brother eagerly eying the beautiful melons, hoping against hope that one stray melon might fall his way, and only those who have seen the Southern darky in watermelontime can appreciate his deepest feelings when he sings:

"Oh, see dat watermillion a-smillin' thew de fence!
How I wish dat watermillion it was mine!
De white folks must be foolish to lef' it dar alone,
A-smilin' at me from de vine."

—*Harper's Weekly.*

A Unique Negro Colony.

Up in Alabama, not far from Birmingham, is a negro colony unigue in the South. Its post-office address is Vance, and the colony is settled on the former plantation of Marion Banks, a slave-owner of old days, who left his land to his negoes when he died. There was 11 heads of families among the negroes at the time, and each got a farm of 209 acres, but they have preferred to live together in community, working together and helping each other when it was necessary. The settlement has been a prosperous one, and is now self-supporting, and has over 300 members, nearly all of the pure African type. But what the negroes want more than anything else are better school facilities, for they are beginning to appreciate the fact that only with education can they "keep up with the procession"; and they are now going to work to add the necessary school, and thus secure educational advance as well as material prosperity. There are dozens of negro settlements in the South, but this is perhaps the only one which has been thoroughly successful without the advice, assistance, or guidance of white men, and where the principle of co-operation, believed to be so difficult in the negro, has been carried out thoroughly. —*Harper's Weekly.*

Preserving Cider.

Cider is preserved in several ways. If it is desired to keep it sweet it may be boiled down one-third and bottled while hot. To prevent the bottles breaking by the heat of the cider, set them while being filled on a wet cloth. As soon as filled, cork the bottles tightly, sealing the top with melted wax, into which the top of the bottle is dipped. Cider so prepared will keep fully a year or two. If the cider is to be kept in barrels, to burn half an ounce of sulphur in each cask, just before the cider is racked off into it, and then to bung the hole tightly, will keep it sweet for months, after which it will slowly ferment, and in coarse of time will make what is called apple wine. The cider made from pears is called perry, and is a very pleasant beverage when well made and kept.

Fraudulent Butter Color.

It is scarcely creditable that any respectable butter color manufacturer should for the sake of paltry gain substitute aniline colors for the common anotto which is the basis of the most of the colors. Saffron steeped in pure olive oil until it becomes red is an excellent and wholesome color, and may be made very cheaply. As such a small quantity—one teaspoonful of coloring—is sufficient for 10 gallons of cream, it is hardly to be thought that any one would use a known poisonous substance for this purpose. We give no credit to the story in circulation.

THE DAIRY.

Skimmings.

The best consumer cow is generally the best producer.

The Ayrshire breed gives the best milk for making cheese, and the Jersey the best for making butter.

First-class butter should not contain more than from 10 to 12 per cent. of water.

One advantage of soured over sweet cream is that more butter can be got out of it and less time is required in churning.

The best food for making milk rich in cream is Summer—particularly June—pasture, with the addition of a little bran daily. The least satisfactory is hay by itself.

Chloronaphtholeum is a long word, but the article is said to keep flies off the cows when mixed with 50 times its amount of water and sprayed upon them twice a week.

If the temperature be low the butter will be long coming and hard-grained; if too high it will come speedily but be greasy. The churn should not be filled more than half full.

Of the 17,000,000 cows in the country 11,000,000 are estimated as furnishing milk for butter, 5,000,000 for condensed milk or for direct consumption, and but 1,000,000 for cheese.

The necessity of milking out clean is shown among other things by the great difference in the composition of the first and last milk. The average of the former is 89.42 per cent. of water, while that of the strippings is only 80.6 per cent.

Butter can be made at once out of separated cream, but it is deficient in flavor. To give it its proper flavor it should be let stand till slightly sour. This souring is brought about by the action of an organism in the milk, the bacterium lactus.

In condensed milk there is still remaining more than 25 per cent. of water, and there is generally 36 per cent. of ordinary sugar added. In rich cream there is 55 per cent. of water, in ordinary separated cream 66 per cent., in skim milk 90 per cent., and in separated milk 90.8 per cent.

About 11 quarts of milk should yield one quart of cream. One quart of cream will yield from 12 to 16 oz. of butter. Cream churns best when yielding three pounds per gallon, and should, if necessary, be diluted down to this. Cleanliness is of course of the first necessity for making good butter.

By taking a small portion of good, sweet cream just about to begin souring, bottling it up from the air, and using a small portion to mix with separated cream, the souring can be so hastened that the cream can be churned much sooner than otherwise. Raising the temperature of the milk to 170 degrees has been resorted to to keep it sweet, as well as the use of various antiseptics.

With the ordinary shallow-pan system of setting three inches deep all the cream practically to be got will rise in from 24 to 30 hours, with the dairy at a temperature of from 58 to 60 degrees F. With the Cooley and Schwartz systems the milk is set 20 inches deep in cold water, iced in Summer if possible, and the cream rises in 12 hours. With the Jersey or Dorset pans the milk is also set warm, 90 degrees F., and the water should not be higher than 58 to 60 degrees nor lower than 45 degrees, the cream rising in 12 hours. With a separator running at 2,000 to 4,000 revolutions per minute the cream is procured instantaneously, but it is thinner than that from the other systems.

Notes upon Cheese.

Nine-tenths of the cheese produced in this country is made in the States of New York, Wisconsin, Ohio, Illinois, Vermont, Iowa, Pennsylvania, and Michigan, ranking in the order named. The New York product alone is almost one-half the total, and this State and Wisconsin together make over two-thirds of all.

It requires the milk of about 1,000,000 cows to make the cheese annually pressed in the United States.

The value of the annual cheese product of this country varies from $20,000,000 to $25,000,000.

About 9,000,000 pounds of cheese are imported annually into the United States.

The rate of consumption of cheese in America is about three pounds per capita per annum.

Consumption of cheese is apparently somewhat decreasing.

Good cheese is approximately composed of one-third water, one-third milk fat, and one-third casein, with some sugar and ash.—*H. E. Alvord, Chief United States Dairy Division.*

Swollen Cheese.

Huffy cheese, as it is termed, when cheese swells up and cracks and exudes a bad-odored fluid, is caused by impurity in the milk, derived either from the water, which is apt to be bad just at this time, or to some other cause which produces a putrid decomposition of the cheese, with production of gas, by which the cheese is burst. When cheese is in this condition it is too late for cure. But the method of prevention is to strictly avoid anything in the milk that is of impure origin, as, for instance, impure water from stagnant places or moldy or rank, coarse feed from swampy ground. At the late Summer time this is to be carefully guarded against. The way to cure it in the curd when fresh made and seen to be filled with gas, which causes it to float on the whey, is to scald the whey and thoroughly cook the curd in it, by which the germs are destroyed.

Gould on the Dairy Cow.

The following is a graphic extract from a recent lecture by the noted dairyman:

"The ideal cow is not large; she weighs about 1,000 pounds; she is something like a racehorse, for speed in the horse and milk in the cow are allied. Beef in a horse and beef in a cow mean strength always. It is a question of nerve power, and that is something food will not produce, only maintain. For the typical dairy cow you must have racehorse type, bony and muscular, whether she be a Holstein, a Jersey, or whatever she may be. You will find her with bony head and strong jaw, long between the eyes and nose, with broad muzzle. She should have a very bright, protruding eye—I want a cow I can 'hang my hat' on her eyes. Why? Simply on account of her brain power. It means strong nerve force, and that means action later on. I want a thin neck and retreating brisket. The lines above and below must not be straight, or she will steal from you; I want her slightly depressed behind the shoulders, with sharp chine; I don't want too straight a back bone. She must have large organs of reproduction; you don't want a cow with a straight back; I want her wedge-shaped. I want two wedges, large in rear and large heart girth; *i. e.*, wide between forward legs, sharp on shoulder. This gives me large heart action and the strong arterial circulation I want. Then last, but by no means least, she must have a good udder, for one-half of the value of the cow is in her udder. She should have a long udder from front to rear. Then she must have a good handle on each corner of her udder. [Laughter.] And why? Because if she gives two pails of milk a day it is a matter of some labor to milk her."

Milk.

Milk is composed of water holding in solution a number of other substances. In cow's milk the percentage of water is 84.8, in goat's 84.49, mare's 88.8, in ass's 89.0, and in ewe's 82.27. The last is therefore the richest. Taking cow's milk as the standard there will remain 13.2 per cent. of solid matter as an average. Good milk of well-fed cows generally gives an average of 13.53 per cent. Of this 3.91 should consist of butter fat, the rest consisting of casein and albumen, the principal substances in cheese, and of various salts or mineral matter. To form a nourishing food all these substances are necessary. But the proportion changes with the breed and feeding. From various experiments it has been found that the proportion of solid matter in the milk of 119 Shorthorns was 12.87 per cent., of which 3.73 per cent. was fat; in that of 115 Jerseys, 14.36 per cent., of which 4.56 was fat; in that of 49 Guernseys, 14 per cent., of which 4.77 per cent. was fat; in that of 11 Ayrshires, 13.43 per cent., of which 4.15 per cent. was fat, and in that of three Kerrys, 14.22 per cent., of which 4.4 per cent. was fat. On the other hand, though their milk was poorer, the large cows gave more of it.

The Cost of Producing Milk.

Prof. H. H. Wing, of the Cornell University Experiment Station, after a year's observations with the Station's dairy herd, reaches these conclusions:

1. With a fairly good herd, carefully fed and kept, milk can be produced for 65 cents per hundredweight, and fat for 16 cents per pound for the cost of food consumed.

2. That individuals of the same breed vary more widely in milk and butter production than do the breeds themselves.

3. The large animals consumed less pounds of dry material per 1,000 pounds live weight per day than did the smaller animals.

4. That, in general, the best yields of fat were obtained from cows that gave at least a fairly large flow of milk.

5. In general, the cows consuming the most food produced both milk and fat at the lowest rate.

6. For the production of milk and fat there is no food so cheap as good pasture grass.

Milk-House Over a Well.

It is not a good plan to have a milk-house over a well for the use of the water, but quite a good one for the milk. If the milk is spilled in the water it will spoil it for domestic use, or it may do so, and, as putrid milk is quite poisonous, the risk should not be run. But if the water is used only for common purposes, and is used freely, unless carelessness is practiced as regards the spilling, no harm may be done. The water will keep the milk cool, and the more so as it is pumped out freely. The way to use it is to have a frame made of iron rods, with a ring at the top to hook on to the well rope, and to lower this into the water with the milk cans in it. By making the lids airtight, the frame with the milk may be lowered to the bottom of the well, but before it is thus lowered it should be cooled off with the covers off, to let the vapor from it escape. This vapor has some impurities in it derived from the cows which should be permitted to escape in the cooling before the milk is closed up tightly.

Pasture as Compared with Soiling.

The greater economy of soiling in Summer and of silage in the Winter, as compared with pasture and hay and grain feeding in the Winter, is equivalent to a gain of one-half or more of the feed, or the feeding of two or four head in place of one. That is, one acre under these more economical systems will feed one cow where four acres under the very best management will be required, and even more under unskilful management. Of course, there is more work to be done and paid for; the feeding is the saving; the work is about evenly increased in proportion to the increase in the number of cows.

THE ORCHARD.

Cullings.

The grape growers of northern Ohio are afflicted with a big crop. The vines are black with the fruit, which is selling at five cents a basket of 10 pounds in the vineyards. There is no profit in such a price, for the basket costs two and a half cents and the picking as much more. It is said that no more grapes will be sent to market, but that the remainder of the crop will be sold to wine makers.

All that is necessary to kill the burdock is to cut off the plant a couple of inches below the ground and fill the hole with common salt. The root is full of sap, which first dissolves the salt, and then, as the moisture gradually increases, it rots away the root that is left in the ground, making a new growth of shoots above impossible. One application is enough, and it takes less than a minute to make it.

A Ladder and Wheel for Picking Apples.

The cut given above is intended to represent a ladder mounted on two wheels for the purpose of being easily moved about the tree, or from one tree to another in the orchard, in gathering apples or other fruit. It can be made quite light, and will be found a useful means of gathering fruit; any ingenious fruit grower can make this step-ladder. There are always old buggy wheels around the farm, or if not there, around

blacksmith shops, which are good enough for this purpose, and if there is any old cast off axle-tree use it, but if not one of wood can be made to serve the purpose.

The base of the ladder resting upon the earth holds the ladder in position when weighted down by the man who is picking. It will be noticed there are handles with which to raise the base of the ladder, and push the ladder along like a wheel-barrow from one place to another.

Splits in Fruit Trees.

If a fruit tree is trained properly from the nursery to the bearing period, the danger from a splitting of the trunk or a splitting off of some limbs from the trunk would perhaps not be very great; but, as a matter of fact, many trees do thus split, and a knowledge of the proper treatment of such wounds is therefore important. Sometimes the two split portions of a tree are brought together and an iron rod passed through both parts, the ends being secured by a bolt-head and by a nut. Such material is not always at hand, and costs, moreover, more than is necessary. *American Gardening* suggests an improvement as follows:

If a coil of stout, galvanized iron wire (No. 12, at least,) is kept on hand, a split limb can be instantly replaced, and a figure 8 placed about it and its neighbor,

as shown in the illustration. Several strands of the wire should be used, according to the amount of weight to be supported. A bit of sheetiron, tin or zinc placed at the sides will keep the bark from being cut by the wire. Such wire is exceedingly convenient in mending breaks of many kinds, and may well be kept always on hand.

Barnyard Manure.

The ideal way of storing manure temporarily till time and opportunity are secured for applying it to the fields is to put it under cover. Unmixed horse manure tends to heat quickly and violently. If spread out evenly, sprinkled with some dry earth or, better, gypsum, and wet and moderately solidified, it will be in an ideal condition.

Nature's method is to spread the refuse material thinly on the surface in late Fall and early Winter where plants are growing. During the Winter and early Spring a large percentage of the available plant food in manures is washed into the soil. Some farmers, knowing this, have adopted the practice of spreading their strawy manures on the meadows in the Fall and early Winter. In April, during a dry time, the coarse parts of them are raked together, carted to the barns, and used a second time for bedding. When manures are spread in the Winter or early Fall they may be plowed under in the Spring with a shallow furrow.

Louisiana Pine for Africa.

The Westlake (La.) *Herald* says that the mill there and a couple at St. Charles have made a contract to furnish a couple million feet of hard pine for shipment to South Africa. This is the first shipment of the kind and is somewhat in the line of experiment, but there is no business reason why the venture should not be a success, and should it prove such these mills will be given options on an almost unlimited amount of shipments in the near future. This is but the beginning of what promises to be an enormous export trade, profitable and easy to handle when once acquired. This growing and valuable trade with South Africa is one that naturally belongs, though a long way off, to the mills of the South, and should be controlled and supplied exclusively therefrom. The yellow pine of the extreme South is better adapted to the trade and uses of that dry and highly heated section of the world than any other kind or grade of lumber which can be shipped there. Its peculiar natural qualities seem to especially fit it to meet the exigencies of the climate.

Now, if those Southern mills which have these contracts, with others which can handle this line of trade, will but learn it, discover the needs thereof, the peculiarities of the trade, just what is wanted and how it is to be put up and shipped, and will do just that way, instead of doing what seems to be in many other lines of business the usual and unsuccessful American dealers' way of endeavoring to force the American ideas and methods upon the foreign market and consumer,—never mind one's own ideas and the ways which he thinks ought to be practiced among those foreigners, but which are not and never will be,—there can and will be built up a most pleasant and profitable line of traffic from the Southern mills to this far-away portion of the world, which is now so rapidly opening up to modern civilization and trade. This trade naturally belongs to the South, and should be filled with the Southern yellow pine, and nothing but the utmost carelessness, indifference and neglect of the ordinary rules of business sagacity can prevent our having it. The great thing to learn therein is to pay strict and thorough attention to the wants and the wishes and ideas of the buyers there and the consumers of the shipments.

Culture of the Casabanana.

EDITOR AMERICAN FARMER: The casabanana belongs to the melon family, and therefore it requires about the same treatment as the melon does, except that it takes a little bit longer to perfect its fruit than the melon, and in climates where the season is short, the seeds should be started in boxes in the house, and afterward transplanted to the open ground, but in warm climates the seed can be sown in the open ground in early Spring.

The casabanana is one of the strangest fruits ever known; also one of the most beautiful. It is a native of tropical Asia and Africa. It will climb to a hight of 50 feet in trees in one season. The fruit is about 18 inches long and three inches in diameter, and of a brilliant blood-red color, and possessed of a strong pineapple fragrance. The fruit of the casabanana is very delicious for preserves; also, in its green state, it forms part of the composition of many kinds of curry.

As an ornamental vine it cannot be rivalled for supreme beauty and magnificance.—S. L. WATKINS, Grizzly Flats, Cal.